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**The Open University**  
**Faculty of Education and Language Studies**

**“Boing boing, like a kangaroo”: Children’s experiences of physical activity.**

**Dissertation submitted in partial fulfilment of the requirements for  
the award of the degree of Master of Research**

**by**

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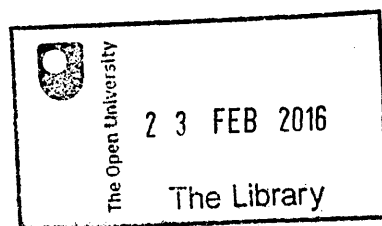
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### **The London 2012 Games:**

**“... the second legacy promise was to transform a generation of young people through sport. Children today are playing less sport than they were in 2009. That’s why it is a wasted opportunity” (*Today*, 2015)**



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Finally this dissertation is dedicated to G.E.D.P; my inspiration.

## Abstract

The London 2012 Games promised to inspire a new generation of more physically active people. Significant investment was made into sport and physical education in preparation for the Games. However the 2012 Health Survey England survey still found that 75% of 5-7 year olds failed to meet the UK Chief Medical Officers' recommendations for daily physical activity (Eastwood, 2014:36).

Current literature identifies a range of motivations associated with physical activity and adolescents. There is a gap in child-centred research which reports what motivates children aged 5-11 years to be physically active. The aims of this small-scale qualitative study are to help fill those gaps and increase understanding of how one group of 5-11 year olds experience physical activity in their free-choice time.

An ethnomethodology and child-centred methods of data collection and analysis are used in order to build understanding from what children themselves do and say. Research is carried out with children in their holiday Activity Camp which offers a choice of screen-based, arts and crafts and sport activities. The children are observed, video and audio recorded whilst active. Photographs and drawings that they prepare about their Activity Camp are analysed and unstructured photo-elicited interviews carried out. Findings are compared with two theoretical models for encouraging participation in physical activity underpinned by Self-Determination Theory. The Sport Education Model (SEM) focuses upon PE and school sport and the Development Model for Sport Participation (DMSP) upon sport and active recreation.

It was found that this group of children experienced physical activity through socialising and exploiting their activity environment resulting in a high level of active creative play and some 'playing at' traditional sports. Many of the recommendations of the SEM and DMSP appear to be applicable to children's free-choice physical activity and worthy of further research in pursuit of a more active new generation.

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## **Chapter one: Aims, objectives, rationale and the focus of the research question**

### **1.1 Introduction**

The London 2012 Games (the 2012 Olympic and Paralympic Games) promised to both “inspire a new generation” and to get “more people of all ages playing more sport and being more physically active than ever before”(Department for Culture, 2012:18) .

Between 2003 and 2008 the Government invested £1.5B in the PE and School Sport Clubs Links (PESCL) programme promoting participation in school and community sport.

The proportion of 5-16 year olds taking part each week in two hours “high quality Physical Education and sport” rose from 62% to 90% (Bardens et al. 2012:4). In 2009/10 a new Government reduced funding and refocused investment onto a new “Olympic-style school sport competition to encourage more competitive sport in schools” (Bardens et al. 2012:4).

Notwithstanding this sustained investment the Government Department of Culture Media and Sport (DCMS) “Taking Part Survey” 2012/13 found participation in any sport amongst 5-15 year olds had declined from 91% in 2008/9 to 88% in 2012-13 (Eastwood, 2014:36).

Children remained less active than the one hour of daily moderate intensity physical activity recommended by the Chief Medical Officers (CMOs) of the UK. The Health Survey England (HSE) self-report survey in 2012 found only 24% of boys and 23% of girls aged 5-7 years met the CMO’s guidelines (Eastwood, 2014:36). Throughout this study 5-11 year olds will be referred to as children and 11 to 15 year olds as young people.

### **1.2 Rationale**

The rationale for the research is threefold. Firstly the study recognises the importance of physical activity for children’s and young people’s health and wellbeing. HSE 2012 reported oobesity levels in children aged 2-10 years around 10-11% (Eastwood, 2014:19-20). In 2013 Public Health England (PHE) reported rising sedentary behaviour associated with television and other screen time in children and young people. Although cautious

about the complexity of factors this was linked to “higher levels of emotional distress, anxiety and depression” (Public Health England, 2013:7). The UK CMOs recognised the role of physical activity sufficiently in 2011 to publish physical activity guidelines for the first time for under five year olds. This established a general principle that physical activity should be encouraged from birth onwards (Eastwood, 2014:35). The research contributes to investigations about why the 2012 Games do not appear to have motivated a more active, healthy generation of young people through increased sports participation.

The second strand of this study’s rationale is based on emerging evidence that children who are more active tend to maintain more active lifestyles into adulthood. Furthermore McCarthy & Jones (2007a) cited Côté and Hay (2002) who highlight the importance of this period for children as:

“a key stage for each child to develop basic identities, motivations, values and beliefs about sport and remain critical for long-term involvement in sport and physical activity” (McCarthy and Jones, 2007:400)

Existing research recognises that better understanding of children and young people’s motivations could lead to the design of activity programmes and opportunities which are more successful at keeping children and young people active for life (Butt, Weinberg, Breckon, & Claytor, 2011; Huang & Gao, 2003; Kuen, 2011; Litt, Iannotti, & Wang, 2011; Tannehill et.al., 2013; Woods, Nelson, Gorman, Foley, & Moyna, 2009).

Finally this study recognises the abilities of even young children to participate fully in research about matters which involve them and the valuable insights that children can bring (Kellett & Ding, 2004; Clark, 2004:142-3). Primary school-aged children are under-represented in research (Craggs, Corder, van Sluijs, & Griffin, 2011:10; Engelen et al., 2013). In research with young people it has been found that understanding the barriers and experiences of physical activity from young people’s own viewpoints has been invaluable (Tannehill, MacPhail, Walsh, & Woods, 2013). This study will contribute to the

growing body of emancipatory literature with children particularly with respect to studies in physical activity.

### **1.3 Aims and objectives of the study**

This small scale study will capture the naturally occurring activity choices and talk of a group of 5-11year olds whilst taking part in a voluntary recreational holiday activity camp. The study aims to develop an understanding of the children's motivations for being active and factors which impact upon their motivations and activity choices. Data from the study group will be compared with literature about children's motivations, particularly intrinsic motivations, for participating in sport and physical activity. The relevance of self-determination theory (SDT) (Ryan & Deci, 2000) as a means of facilitating intrinsic motivation will be assessed in the context of two theoretical models for the encouragement of sport participation.

In order to achieve these aims, the objectives of the study start with a review of sport and physical activity literature from the decade leading to the 2010 Games to identify key themes about children's motivations and barriers for being active to inform data collection and analysis. The study itself goes on to work with children in a sport and physical activity setting. Clark's, (2004) Mosaic approach to research with young children will be employed using child-centred multiple methods of data collection and data analysis. This will include video recordings and observations of children in action, together with photo-elicited unstructured interviews and analysis of children's photographs and drawings. The objectives of data collection are to identify the range of activity choices that children make and capture how and why they take part in those activities through what they say and how they choose to experience the activity camp.

Data analysis using grounded theorising and conversation analysis techniques has the objective of developing insights about children's motivations for being active from their own actions and words. These will then be compared and contrasted with existing research. The study will assess the relevance of the models for sport participation,



(DMSP and SEM), to a voluntary activity environment and the task of motivating sustained physically active choices.

## **1.4 The research question**

Hammersley, M. and Atkinson, P (2007:24-28) describe how in ethnographic research questions continue to develop throughout the research process. However they usefully cite Malinowski's "foreshadowed problems" (Hammersley, Martyn. and Atkinson, 2007:21), as the starting point for the development of research questions. These are the problems researchers bring into the field and which encourage them to develop their theoretical studies. Children's inactivity levels and rising health problems in spite of considerable investment in PE and school sport and the hosting of the London 2012 Games provide this study's "foreshadowed problems". This leads to an initial research question: "How do children aged 5-11 years experience physical activity?" This will prioritise and maintain a focus upon building a view of physical activity from the children's own actions and words. Research questions will develop during the literature review, data collection and analysis stages of the study.

## **Chapter two: Literature review**

### **2.1 Parameters of the literature review**

In this section key parameters of the literature review are defined and the study is put into context within the body of existing research. Key themes are then identified in the literature reporting how children and young people experience being physically active. Two underpinning theoretical frameworks which contribute to understanding physical activity behaviours are highlighted as part of the review of key themes. Gaps in current literature are reflected upon and ways in which this literature review needs to be developed. The chapter concludes by showing how the literature review has shaped revised research questions.

The literature review focuses on research from the planning years for the London 2012 Games to date. During this time attention turned strongly to the question of how to motivate more physically active children and young people. Emphasis is placed on identifying literature reporting what children (as against young people) do and say about being physically active to contribute to emancipatory research with children in this area. However, literature covering both children and young people is included in the review and a gap in literature covering children is identified.

Before proceeding the definition of physical activity and the impact of this on the development of the study is addressed.

### **2.2 Definition of physical activity**

Investigating how children experience physical activity leads to considering how the literature defines physical activity. Within the wide body of literature the term physical activity is used in diverse and inconsistent ways although there are some patterns of use dependent on the research question being addressed. It will be important to guard against

generalising literature focused upon 'sport and physical activity participation' to all physical activity. Motivations to specialise and compete in one particular sport may be very different compared to motivations to participate recreationally in a range of non-sport based physical activities. In their study measuring activity levels of Australian primary school-aged children at play, Engelen et al., (2013) point out that sport is only one form of many ways of being physically active.

The focus of this study is upon identifying factors which motivate children to be physically active in order to support healthy lifestyles and wellbeing. An all-encompassing definition of physical activity is applied to this literature review. This includes physical education (PE), school and community sport but also home and community-based recreational activities in both programmed and unstructured settings such as cycle rides and active non-sport based play. In this context sport can be important in encouraging children to be physically active but as Engelen et al. (2013) highlights sport may not be the source of motivation for all children.

To add to this complexity the use of terms within physical activity research and components of physical activity such as PE continue to develop and evolve. For instance Almond, (2015), Tomik, Olex-Zarychta, & Mynarski, (2012) describe PE in schools as a means of engendering positive attitudes to physical activity for life. This is also reflected in the new primary school curriculum for PE (Education, 2013). In this, there is a growing emphasis upon embedding physically active habits for life alongside levels of physical literacy which enable children to feel confident and competent to participate in a range of activities.

This literature review also adopts a broad and inclusive definition of health and well-being benefits of physical activity. Literature investigating social, psychological and emotional as well as physical health and well-being is included in the review.

There is a widespread consensus within literature that intrinsic motivations for taking part in physical activity result in stronger commitment and sustained participation than external motivations (Litt et al., 2011; Huang & Gao, 2008). Most studies emphasise having fun and enjoyment as the single most important motivator (Côté.1999:401; McCarthy & Jones, 2007; ) This still leaves the question of how children experience or perceive they will experience fun and enjoyment through physical activity. Nonetheless this general finding is highly compatible with theoretical models for encouraging sport participation focusing on the power of self-determined behaviours.

### **2.3 Key theoretical frameworks for motivating participation in physical activity**

Two models are particularly relevant to this study. The Sport Education Model (SEM) developed by Siedentop (Siedentop,1998) applies to the teaching of physical education (PE) in schools. Siedentop explains sport education as a “curriculum and instruction model” designed to link the school PE experience to a sport providing educationally rich sport experiences” (Siedentop,1998:18) . Children engage in the promotion, administration, leadership and officiating of sports as well as playing them. He also sees sport as “a form of play” (Sidentop, 2002:412) and suggests that maintaining playfulness will lead to self-determined commitment to participate. The SEM comprises six key characteristics (Siedentop, 1998) for physical education teaching which can provide this breadth of experience of playing sport (Perlman & Karp, 2010; Alexander & Luckman, 2001). These characteristics are underpinned by the three psychological needs linked to self-determination and intrinsic motivation namely *autonomy*, *competency* and *relatedness*. The model satisfies those needs by adjusting traditional teacher-pupil roles providing pupils with autonomy, shared ownership and organisational responsibilities. Whole seasons of one sport rather than a series of short modules of different sports are followed to give time for growth of competency and confidence to participate. Pupils work in teams which are retained for the season. Finally participation is celebrated continuously

through end of season events, interim festivities and the development of appropriate competitions. This provides opportunities for team affiliations to be played out and children to experience a sense of belonging and relatedness (Siedentop, 1998). Siedentop's focus on celebration and playfulness through playing sport in physical education is also seen in the Development Model of Sport Participation (DMSP).

The DMSP developed by Jean Côté and colleagues (Côté, 1999; Jean Côté, Baker, & Abernethy, 2007) "provides a comprehensive framework for sport expertise that outlines different pathways of involvement in sport" applicable outside compulsory school PE and sport (Jean Côté et al., 2009:7). Like the SEM, the DMSP identifies pathways to sustained enjoyment and intrinsic motivation. Pathways lead to sustained participation in sport at both recreational and elite performance levels. Important to this study, the model identifies a sampling period when children (7-11 years) enter sport during which they are involved in a range of sports and deliberate play. Deliberate play is characterized by Côté as a form of sporting activity that "involves early developmental physical activities that are intrinsically motivating, provide immediate gratification, and are specifically designed to maximize enjoyment" (Jean Côté et al., 2007:185). Following the sampling years, the model introduces two different pathways leading to sustained recreational participation in sport or to sustained elite performance. Deliberate practice characterised as more serious and goal orientated is introduced in both pathways but differentially. Deliberate practice increases in the elite performance pathway during specialising years (11-15 years) but is still balanced by deliberate play. By the investment years (15 years old) the young person is focused on one sport and deliberate practice dominates. Nonetheless low amounts of deliberate play continue. On the parallel recreational pathway deliberate play remains dominant throughout the teenage years to adulthood.

Annex A contains a visual representation of the Development Model of Sports Participation and associated definitions of deliberate play and deliberate practice and a

summary of the characteristics of the Sport Education Model. Both models are underpinned by self-determination theory of motivation (SDT).

### **Self-Determination Theory (SDT)**

Pannekoek et.al. (2013) identify the need for more research into motivation theories which are specifically useful in identifying motivational factors for children's participation in physical activity. They recognise for instance that factors may change as children develop and propose that "integrating constructs of (these) theories in order to attain a comprehensive account of motivated behaviour" (2013:1097). To some degree self-determination theory (SDT) begins to do this bringing together three sub-theories; cognitive evaluation theory, organismic theory and a construct of amotivation. Together these provide a framework for explaining human motivation and behaviour (Pannekoek et. al., 2013).

In developing SDT, Ryan and Deci (2000) take an approach which is sympathetic to the study of motivation for physical activity. They adopt a developmentalist viewpoint believing intrinsic motivation to be innate and contending that children are born "active, inquisitive, curious, and playful" (2000:70). However they also recognise that intrinsic motivation is not naturally sustained throughout life. Through both empirical and qualitative research, Ryan and Deci (2000) identified three psychological needs which underpin self-determined (intrinsic motivation) behaviours. These comprise competence to participate in an activity or situation, a sense of relatedness to others and a sense of autonomy and choice about their situation. Other motivation theories focus on further motivational factors that are less well accommodated within SDT. Moreno-Murcia et al. (2013) for instance use the theory of planned behaviours in their study of the impact of planning for physical activity on actual participation in adolescents. However SDT's broad multi-factor approach provides a strong theoretical framework reflecting the complexity of

motivations for physical activity participation. It takes account of a range of social, psychological and other external factors that both sustain and discourage self-determined behaviours. As a result the theory has been applied widely in the study of physical activity participation (Li et al., 2014). SDT is particularly applicable to this study as it underpins both the SEM and DMSP and these models provide frameworks for analysing how children experience physical activity based on the principles of self-determination and intrinsic motivations to be active which are summarised next.

## **2.4. Fun and enjoyment**

Fun can be related to socialising with friends irrespective of the activity as well as enjoyment of the activity itself. Using the DMSP, McCarthy & Jones, (2007) carried out focus groups with children in the sampling years (7-12yrs) to identify changes in the factors affecting children's enjoyment of sport participation. This study supports a larger body of research with young people which concludes that enjoyment underpins all motivations to participate in sport and can predict ongoing commitment to sport. Sources of enjoyment were derived from the whole range of internal motivations comprising 'perceived competence, social involvement and friendships, psychological support and also mastery-orientated learning environment' (McCarthy & Jones, 2007:400). Gender differences are often found in these types of study. Kuen, (2011) for instance suggests the exertion involved and challenge of learning a new skill motivated male participants whilst the novelty of rowing may have provided enjoyment and motivation for females.

Young people, particularly females, are attracted to social aspects of taking part in physical activity and the opportunity to socialise with friends, reinforce friendships and standing with peers (Butt et al., 2011; Kubayi, Toriola, & Monyeke, 2013; Litt et al., 2011; 2011; Tannehill, D. et al, 2013; Tomik, R. et al., 2012). Young people also talk positively about enjoyment of the activity itself, (Coulter & Woods, 2011) the feeling of being active and even physically challenged together with enjoyment linked to mastery of physical

skills (McCarthy and Jones, 2007). Conversely loss of interest and enjoyment is cited as a reason for not participating or ceasing to participate in a particular activity ((Kubayi et al., 2013; Mccarthy & Jones, 2007). Males are generally found to be more motivated than females by the fun of the activity itself (Tomik et al., 2012).

Fun and enjoyment can be clearly located in both the DMSP and SEM. Deliberate play is characterised by participation for enjoyment for its own sake in the DMSP. The opportunity to develop and celebrate strong affiliation to a sports team is a core characteristic of the SEM.

## **2.5 Choice and self-determination**

Higher levels of self-determination with freedom to choose from a range of different activities has been found to motivate young people to participate in physical activity (Kubayi et al. 2013; Kuen, 2011; Tannehill et al., 2013). This is also a key characteristic of the SEM used in a piece of action research by Perlman & Karp, (2010). Poorly motivated high school students provided with a choice of activities and ways of participating resulted in increased commitment to physical activity. Students were able to participate and earn points for their teams as officials and organisers as well as players. Importantly being physically active was not presented to students as simply competing and winning. They conclude that their model of engagement allowed students to experience 'social engagement', 'a sense of belonging', 'competency' and 'autonomy'. This resulted in pupils developing levels of self-determination that would motivate them to sustain participation in physical activity independently. Studies by Huang & Gao (2008) and by Kuen (2011) seem to support these findings. Their highly prescriptive sport programmes did not result in increased or sustained physical activity.

## **2.6 Perception of physical competence**

A key factor determining whether young people are physically active is children's belief in their capacity to participate (Huang & Gao, 2008). They found that perception of physical



competence to participate is linked with the child's concern about their standing within their social group. A sense of competency is a key strand in self-determination theory and underpins DMSP and SEM. Simultaneously this aspect impacts upon participation in competition discussed next as part of a review of external motivators.

## **2.7 Competition and challenge**

For those with a strong belief in their competency, competition can act as a strong external motivator. Equally competition can impact negatively upon those with low perceptions of competence (Huang & Gao, 2008). This supports findings that some children and young people are motivated by an environment where they are encouraged to master skills and challenge their own performance rather than compete against others (Litt et al., 2011; McCarthy & Jones, 2007). McCarthy & Jones, (2007) identified an increasingly competitive orientation to sport and physical activity as a source of de-motivation for some 7-12 year olds. They also referenced de-motivating behaviours that might be associated with competitively-orientated coaches including negative feedback and inappropriate psychosocial support.

## **2.8 Support of family, coaches and teachers**

Some children and young people cite role models and the support of family and coaches (Cipriani, Richardson, & Roberts, 2012; Coulter and Wood, 2011; Huang et al., 2008; Kubayi et al, 2013; Mulhall, Reis, & Begum, 2011) as well as peers and friends (Huang, 2008) as sources of motivation to participate in sport and physical activity. This is linked to positive coaching practice providing appropriate psychosocial support and positive feedback on performance. As a result Cipriani et al., (2013) and Mulhall et al (2011) suggest that a focus on whole family activity is needed to encourage some young people to participate. Coulter and Woods (2011) identify an association between parents who enjoy activity and children who are active.

## **2.9 Understanding health benefits of physical activity and body image**

The final theme from the literature emerging from research with young people rather than children also highlights gender differences. Tomik (2012) found that females (and older male adolescents) were more motivated than males by potential positive body image outcomes from participation. Meanwhile Litt et al (2011) identify three key factors that predict participation in physical activity by young people. These comprise health motivations for being physically active, social and external motivations. As yet, there is not widespread support for this focus in the literature.

## **2.10 Conclusion and development of the research question**

Across the themes the vast majority of literature reviewed focuses on young people rather than children. It also tends to report large scale quantitative research often using self-report questionnaires as the key data collection tool. There is some case study research and action research focused upon testing the motivational value of specific sports programmes. Little qualitative research was found which built a view of physical activity from the viewpoint of the child or young person.

Researchers themselves identify the potential shortcoming of self-report research tools when trying to make correlations between physical activity levels and motivators (Mulhall, Reis, & Begum, 2011). These research methods have resulted in a body of very programme-centred rather than child-centred studies. Some studies focus upon identifying programmes that will increase long term commitment to being active. Other studies focus upon raising children's activity levels whilst participating in order to meet the Chief Medical Officers' guidelines of moderate and /or vigorous activity.

This programme-centred focus also demonstrates a gap in research about children's free choice recreational activity time. The vast majority of the research was based on PE and school sport or community club-based sport. This will impact on how children experience

physical activity; the former being largely compulsory and the latter suggesting a pre-existing level of commitment to a sport.

Meanwhile, Craggs, Corder, van Sluijs, & Griffin, (2011) highlight not only the paucity of research with children but also the tendency for what research there is to focus upon biological and demographic factors underpinning participation in physical activity. This is reflected in this literature review. In addition this literature review confirms a gap in qualitative child-centred studies of children and physical activity. The body of literature is however growing rapidly with ongoing concern about the health and well-being of children in the UK. The literature review needs to be developed to increase the focus on child-centred research with particular lines of enquiry that have been raised by this initial review. These would include the influence of the family which may be significantly different for children than young people (McCarthy and Jones, 2007); the relevance of the models of sport engagement for a broader range of physical activity including non-sport based physical activity such as active transport and walk to school activities (Coulter & Woods, 2011) and free play; how children experience physical activity in relation to a broader focus of well-being which includes psychological, social and emotional well-being.

Notwithstanding the gaps in literature this review sensitised the researcher to potential themes and issues that children demonstrate and talk about when collecting data. It also provides useful insights and key themes that have been used to shape the research question (RQ) providing a suite of questions which will be further developed as a result of data collection and data analysis as follows:

**RQ 1 How do 5-11 year olds experience physical activity?**

**RQ 2 To what extent do children's actions and words when physically active support the three tenets of self-determination theory within the Sport Education Model and the Development Model of Sport Participation?**

The three tenets of self-determination theory in this context are:

- Children's autonomy and choice,
- Their relatedness and socialising,
- Their sense of competency to take part in physical activity.

## Chapter three: Methodology and methods

The aim of this chapter is to demonstrate how the research methodology, data collection and analysis methods are planned and designed as a coherent and effective response to the research questions (Hammersley & Atkinson, 2007; Punch, 2005; Robson, 2011).

The research design is outlined together with key factors which shaped the selection of an ethnomethodological approach. Key issues about the use of an ethnomethodology are discussed including ensuring the rigour of qualitative research and sampling issues.

Individual data collection methods are then outlined. The chapter concludes with discussion of ethical considerations and aspects of data analysis associated with the use of grounded theorising and conversation analysis techniques.

### 3.1 The research design and research questions

The research questions outlined in Chapter 2 have shaped the research design (Walliman, 2005:110). Table 1 below shows each research question mapped against the four data collection methods which are outlined in detail in the next section. Multiple sources of data are collected against each question. In each case data is collected from children themselves in order to fulfil the study’s objective to help fill the gap in research reporting children’s own actions and words.

Table 1 to show the research design mapping research questions against data collection methods

	RESEARCH DESIGN		DATA COLLECTION METHODS			
Research Questions	RESEARCH QUESTIONS	Literature review of children's and young people's motivation and participation in sport and physical activity	Video recording of children's choices of activities and naturally occurring talk	Photo/ drawings- elicited unstructured interviews	Observation and field notes	Analysis of children's photographs showing the things they 'loved' about activity camp
RQ 1	How do children aged 5-11 years experience physical activity?					
RQ1.1	What do children 'do' when choosing to be physically activity?		√		√	
RQ1.2	What physical activity experiences do 5-11 year olds say they like or express enjoyment in participating in?		√	√	√	√
RQ2	To what extent do children's actions and words when physically active support the three tenets of self-determination theory within the Sport Education Model and the Development Model of Sport Participation? The three tenets of self-determination theory in this context are:					
RQ2.1	• children's autonomy and choice,	√	√	√	√	√
RQ2.2	• their relatedness and socialising,	√	√	√	√	√
RQ2.3	• their sense of competency to take part in physical activity	√	√	√	√	

## **3.2 Methodology**

This is a piece of qualitative research which draws upon interpretivism and social constructionism underpinning the use of an ethnomethodological approach to the study. This choice is based on the belief that children construct their understanding of physical activity by interpreting meaning from their own social and cultural experiences. This leads to multiple and pluralistic ways of understanding physical activity which could differ from day to day and between different children (Hammersley & Atkinson, 2007:8). Furthermore Punch (2005:219) states that the way in which people talk about social phenomena contributes to the creation of individuals' realities. The researcher believes that the conversations that children have can help to form their view of physical activity.

Citing Silverman (1993), Punch states: "Ethnomethodology sets out to understand 'folk's' (ethno) methods (methodology) for organizing the world" (2005: 219). This study focuses upon children's games, play and talk to see how they create shared experiences and construct shared meanings to make sense of being physically active (Punch, 2005: 219; Taylor, 2013:11). Since the research participants and 'subjects' of the research are children this approach provides a child-centred research methodology which is ideally suited to the purpose of the study.

### **3.2.1 Issues related to using ethnomethodology**

Ethnomethodology is rooted in naturalism. Naturalism is interested in the study of the social world in natural settings which are undisturbed by the researcher (Hammersley & Atkinson, 2007:7). This provides challenges for the ethnomethodologist concerning their impact as a researcher and how rigour is applied to achieve good quality research. Some criticise Naturalism for lacking scientific rigour. Naturalists study social phenomena and "describe what happens, how the people involved see and talk about their own actions" (Hammersley & Atkinson, 2007:7). Punch, (2005:252) emphasises the need for quality

control of data in all empirical research. This applies firstly to the collection of data and then to the reliability or dependability, validity and reactivity of the data collected.

Naturalists claim that collection of data from natural settings rather than the artificial settings of positivist experimental methods provides high levels of validity and reliability or dependability (Hammersley & Atkinson, 2007:7).

Dependability relates to the internal consistency of data collected for instance over time and between researchers. The researcher became familiar with the data collection environment and worked with experienced Activity Leaders to identify any exceptional circumstances which might affect data collection. The scheduling of data collection at different times of days and comparison of data from multiple data sources allowed triangulation and checks of internal consistency (Punch, 2005:252).

Observation of children being active ensures high levels of internal validity as the data collected inherently represents the phenomena being studied. External validity is linked to the generalisability and transferability of the research findings and to the sampling of research cases. This small scale study does not set out to achieve generalisable findings. Nonetheless the researcher believes the study can be closely replicated as it is based in a common and natural setting of a holiday activity camp.

Reactivity considerations are concerned with the potential impact of data collection methods on the children's participation in the activity day. Hammersley & Atkinson, (2007:14-18) identify the need for research to take account of the fact that "social researchers are part of the social world they study" and this will impact research. The researcher accepted that her presence and data collection methods could influence the research and employed constant reflexivity. This is the recognition that researchers bring a set of values and experiences to the research situation and that simultaneously the research situation acts on the researcher.



3.2.2 Sampling

The study set out to help fill a gap in research into children’s free-choice physical activity time. The sample was a convenience sample based primarily on the pragmatic accessibility of the research site (Martyn Hammersley & Atkinson, 2007:29). The researcher approached former colleagues who run primary school-aged children’s multi-sports days they call Activity Camps as shown in Annex C. Dangers of sponsorship by an interested host were noted and the researcher remained aware and reflexive about potential issues (Hammersley & Atkinson, 2007:31). Host company personnel were generous in facilitating the research and did not seek to influence it in any way.

The study engaged with children at a typical half term Activity Camp using a school sports hall in a large town in Bedfordshire. Parents were approached personally for permission to ask their children if they would be willing to take part in the research. No parent refused permission, most expressing interest and helping to explain the research to their children. Children were then approached before starting data collection. Annex D contains information sheets and consent forms and these are discussed later as part of the ethical arrangements for the study. Permission was gained to include thirty-one children on day one and sixteen on day two across the age range 5 to 10 years. The Activity Camp leaders categorised children as Nippers (aged 5-7yrs) or Juniors (8-11yrs). A reasonably balanced sample of potential research participants by gender and age grouping was achieved:

Day one:	Boys	Girls
Nipper	8	7
Junior	7	9

Day two:	Boys	Girls
Nipper	4	6
Junior	4	2

Whilst this comprises the potential sample not all the children contributed to data collection. Some did not participate in physical activity during the data collection period. To this extent, the sample was self-selecting and purposive based on the researcher including only children who were active. Some children may have been active but missed whilst the researcher was collecting data elsewhere. Criteria for the selection of physical activity episodes are discussed in data collection methods but this also defined the sample of children who contributed to the data collection. Nineteen children contributed data comprising ten Nippers - three girls and seven boys and nine Juniors – four girls and five boys.

The research does not set out to be generalisable and the sample of participants is not intended to be representative in any way. For instance data has not been collected on the socio-economic status of the children's families. It is not felt that this would have a significant effect upon how children experienced being active.

### **3.3 Methods of data collection**

The study adopts the multi-methods mosaic approach developed by Clark (2004) to “find ways of harnessing young children's creativity and physical engagement with their world” (Clark, 2004:142). The research focus upon physical activity particularly lent itself to this approach. Just as in Clark's (2004) work, the bringing together of a 'mosaic' of different types of data was planned to enable children of a wide range of abilities to take part in the study and provide opportunities to triangulate and internally validate data.

Four qualitative data collection methods were used as shown in Table 1 comprising video recording of children's choices of activities and associated naturally occurring talk; photo/drawings-elicited unstructured interviews; observation field notes and analysis of children's photographs/drawings showing the things they 'loved' about Activity Camp.

Other methods such as quantitative survey methods could have been designed appropriate to the capability of the child research participants for instance using picture boards or conducted verbally. However the nature of the research questions lent themselves to methods which would elicit free flowing data from observation and conversation about what was important to the children. Survey methods, structured and semi-structured interviewing and experimental based methods such as action research tend to provide answers to questions about 'how many' and 'to what degree'. Children's responses could potentially be shaped and guided by choices offered in data collection tools. This risks imprinting an adult researcher's view of the world on the potential responses. The researcher also wished to reduce the potential conditioned responses that can occur with this age group when working with adult researchers (Kellett & Ding, 2004:166). Gathering data in the child's own voice and from their own actions also minimises the need for adult interpretation and potential misinterpretation from an adult perspective outside of the child's world (Kellett & Ding, 2004:165 and 172). Finally a key aim of this study is to help fill a gap in qualitative research which gives opportunities for the children's own voices to be heard through what they do and say.

### **3.3.1 Video recording of children's activities choices and naturally occurring talk**

Coates, (2002:25) speaks about concern for violating children's space by using video recording to collect data about children's talk whilst drawing. She opted to observe and take notes as a more ethically sound way of collecting data enabling her to ignore and not record data that may concern the child. In this study the researcher takes a different approach seeking to normalise videoing whilst still mindful of the rights of the children to be respected. Choice of what the researcher decided to video was facilitated by her data collection plan and by familiarisation visits to the data collection site. The researcher had to become generally aware of what children were doing at all times to anticipate activity

episodes. The unprogrammed activity environment was challenging but simultaneously provided the free-choice physical activity environment that she wanted to study.

### **3.3.2 Unstructured interviews – drawing and photo-elicited interviews**

Unstructured interviews are non-standardised, open-ended and in-depth with no prior assumption of categories of information that the researcher is seeking to pursue. This according to Punch (2004) is "used as a way of understanding the complex behaviour of people without imposing any *a priori* categorization which might limit the field of inquiry" (Punch, 2004:172) and is ideally suited to the child-centred objectives of the research. This approach allows children to guide the conversation according to what is important to them about their experiences. The researcher encourages discussion by simply asking an open question and then responding to what the children themselves say to develop a natural discussion. Constant reflexivity is required to check that children are comfortable being engaged in the discussion and they understand and feel confident enough to withdraw at any time. Recording interviews allows the researcher to concentrate fully on the child participant and captures fullest information together with the intonation and nuances of what the child says for analysis. The researcher was also prepared to take notes of the interview if necessary. It is recognised that the researcher has to be selective in note taking and inevitably some details are lost. Reflexivity is needed to examine the choices that the researcher makes. The planned approach was to capture examples of children's exact words aspects of their speech such as tone and accompanying body language rather than complete verbatim passages of talk.

### **3.3.3 Observation and field notes**

Participant observation is the process of adopting a role in the research situation from which the researcher can observe the social phenomenon being researched. This might have resulted in children being on their guard or providing staged or conditioned responses (Kellett and Ding, 2004:166) and there was a need to win children's trust. The researcher aimed to achieve an ethically open and transparent observer-participant role

(Hammersley and Atkinson 2007:89). As an additional Activity Leader she would be able to engage with the children by remaining alert to the whole data collection environment.

### **3.3.4 Digital photographs and drawings**

Hearn & Thomson, (2014:156) describe photographs and artefacts as 'created cultural constructs'. Children craft their photographs and drawings with a specific purpose and with a particular world experience and understanding. They remind us that the photograph or artefact cannot simply sit as "an authentic truth" (Hearn and Thomson, 2014:158-9) making a statement on its own. In analysing the photographs and drawings the researcher had to consider how photographs and drawings provided insight into how the children experienced the Activity Camp.

## **3.4 Data collection plan**

The data collection plan was revised following familiarisation visits to the Activity Camp. Prior to the visits, the researcher had assumed that there would be structured sports activities programmed which she would be able to schedule for video recording and observation. However only one scheduled activity took place comprising parachute games to start each day. Thereafter children themselves initiated activities often spontaneously. This resulted in a less structured data collection plan based on the activities seen during familiarisation visits.

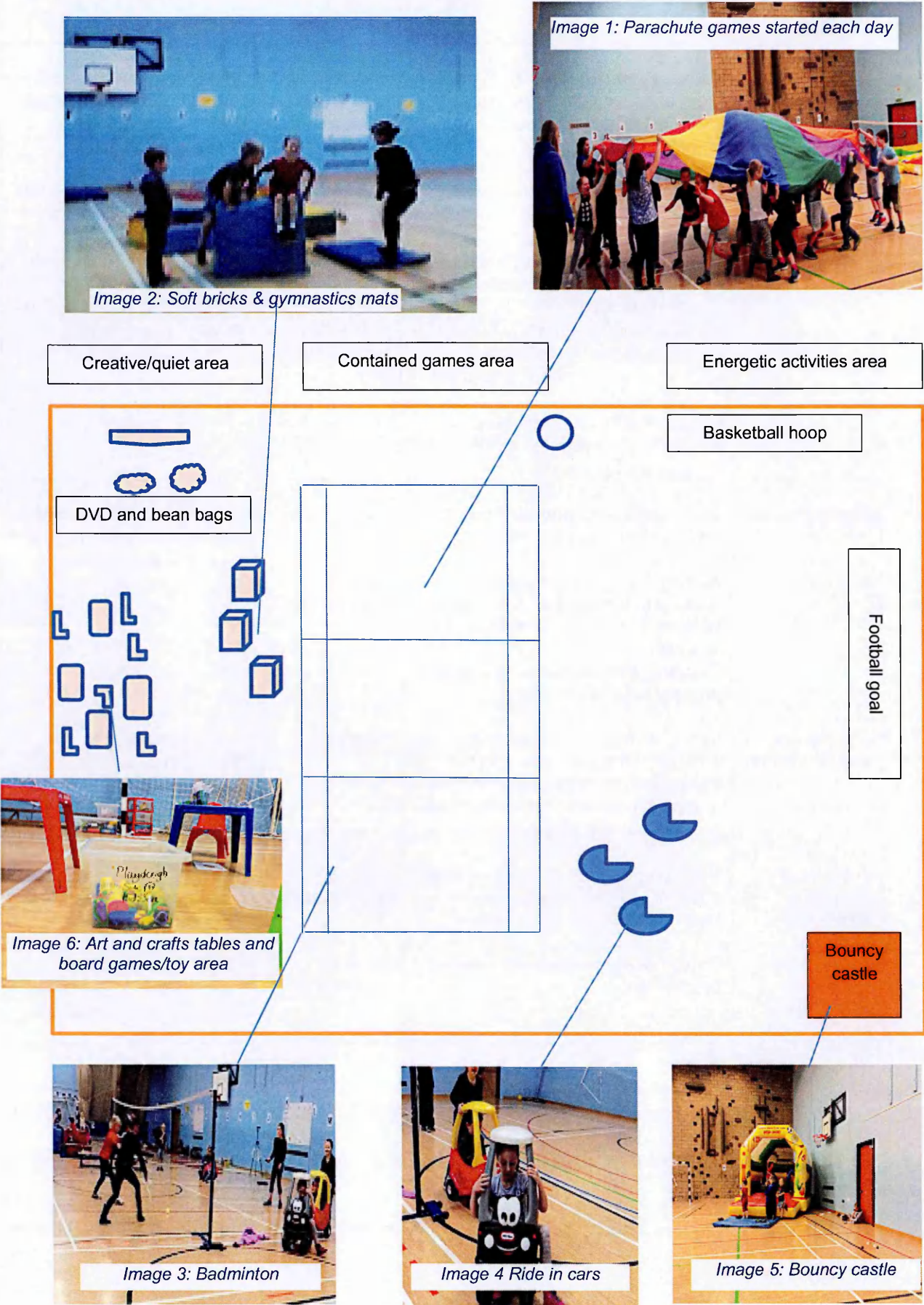
Table 2 to show the data collection plan

Data collection method	Activity data to be collected	Timing	Notes / support
Video recordings of children's activity choices and audio recording of naturally occurring talk.	At least one sequence from each area of activity observed during familiarisation visits comprising:	5-10 min sequences across a full day	Objective to collect data from the range of activities experienced during familiarisation visits
	<ul style="list-style-type: none"><li>Organised parachute games group session</li></ul>	Day one 10.00 am	Whole group organised/led activity of up to 24 children
	<ul style="list-style-type: none"><li>Individual kick about /skills practice activities – pairs and small groups</li><li>Small group 'game' activities</li><li>Bouncy castle episodes – individuals, pairings and small groups</li><li>Giant sponge bricks play</li><li>Badminton pairs up to 4/6 players typically</li></ul>	5-10 min sequences any time during day one or day two	Watch for opportunities to capture these or other equivalent activities as they occur.
Photo/drawing -elicited unstructured interviews	Invite children to borrow iPads and tablets to become journalists to report what they 'loved' about Activity Camp. Instruct children to take up to five photos. Ask children to bring back to the researcher to discuss. Conduct three discussions about photographs taken	During normal activity session morning Day one.	Audio record/ take written notes if possible within the sports hall environment.
Observation and field notes	Critical events / unexpected events e.g. the change of venue on the second day of data collection from a large sports hall to a much more confining dance studio.	As arise	Events that seem to offer different insights
Analysis of children's photographs /drawings showing the things they 'loved' about Activity Camp	Photographs from all children who volunteer to participate whether interviewed about photos or not.	Up to 50 photographs	Ensure all photos saved before handing iPad/tablet to the next 'journalist'.
	Copies of all drawings volunteered by children	Up to 31 drawings	Take photograph of all children's drawings as part of their end of Activity Camp celebration

The sports hall was set out as shown in the diagram below augmented with examples of children’s own photographs. An extensive range of toys, arts and crafts materials together with a full range of sports hall equipment was available to the children, some of which are depicted.



Figure 5 to show the Activity Camp sports hall lay out and equipment for data collection



### **3.5 Data Analysis**

This section outlines the rationale for the use of grounded theorising and conversation analysis techniques to analyse data. Strauss & Corbin's (2008) approach to grounded theorising was used incorporating the use of conversation analysis techniques which reflect the use of language as social practice (Taylor, 2013:11-12). Challenges and learning points from the choice of these data analysis methods are included before discussing how data was collected and analysed in the next chapter.

#### **3.5.1 Rationale for the use of grounded theorising and conversation analysis**

Grounded theory describes both an overall approach to qualitative inquiry and a practical and systematic approach to analysis of large quantities and varied types of ethnographic data (Patton, 2002:125; Robson, 2011:147). Robson, (2011:151) highlights the possibility of 'incorporating ... aspects of grounded theory' into studies and the researcher does this to employ an inductive approach to data analysis. Strauss and Corbin's approach to grounded theory supports the constructivist approach to the research by emphasizing "the interplay between researchers and data" and "a set of coding procedures" rather than "quite specific methods and systematic procedures" more typical of Glaser's more objectivist approach (Patton, 2002:127). Meanwhile conversation analysis developed from ethnomethodology as a means of analysing talk by treating talk as a form of social activity focuses on "the ways in which speakers produce order, meaning and coherence in and through their interactions" (MacLure & Walker, 2007:221).

In this way conversation analysts set out to discover the meanings of social phenomena, by paying attention not only to what is said but the way in which it is said involving "fine-grained analysis" of the transcripts of talk (MacLure & Walker, 2007:221). By using conversation analysis in this study I am taking the position that children's talk when they are active is an integral part of their physical activity experience and contributes to the 'meaning' of the experience for them.



### **3.5.2 Challenges and concerns with grounded theorising and conversation analysis**

Criticisms of this approach primarily concern the feasibility of the researcher to be sufficiently reflexive to remove or fully recognise the impact of their personal values and beliefs upon the grounded theorising data analysis. The researcher acknowledges the potential for her own enthusiasms and prejudices to impact on the study. Care is taken to ensure analysis is driven by the data, ensuring the data supports coding decisions and the identification and description of codes (Whetherell, Taylor, & Yates, 2001:36). This follows Hammersley and Atkinson's (2007) guidance that:

“interpretations are made explicit, opportunities taken to test the limits of interpretations and alternatives considered’ (2007:17).

In addition the researcher engaged support from a peer researcher who reviewed and discussed a sample of early analysis which highlighted some coding issues in which the researcher had potentially overlaid her own interpretation on photographic data. The detail that the researcher seeks to include or not on the analysis itself can reflect the researcher's own view of the world and of knowledge (Whetherell, Taylor, & Yates, 2001:55-56).

### **3.6 Ethical considerations**

This section sets out the ethical framework for the study and key considerations particularly important to research with children. The study was subject to the approval of the Open University Human Research Ethics Committee and adopted the British Educational Research Association ethics and legal guidelines. The study was registered with the Open University Data Protection Officer and all data collected was stored securely in accordance with the Open University's data security guidelines. This included special secure electronic data storage areas and the use of encrypted storage devices when in the field.

May, (2001) focuses upon the impact of values and value judgements which give rise to ethical judgements throughout research (2001:50). Simultaneously the researcher used Alderson's (2014) framework of 'ethical principles' as a guide comprising respect for the personal integrity and autonomy of child research participants; informed consent free from deception; removal of potential harm or discomfort to research participants; maintenance of privacy and confidentiality of personal information; intolerance of exploitation of research participants; recognition of the impact of adult researcher's and other adult stakeholders and the use of reflexivity.

Fully transparent and informed consent was sought from both guardians and children before engaging research participants. Annex D contains letters and consent forms for guardians and children. Children's forms were designed with the assistance of children of the appropriate age and an experienced primary school teacher. Language used was checked using a web-based Flesch-Kincaid Grade Level test of readability. Parents were met personally in days before data collection and provided with the information giving them time to give considered consent. They were also able to discuss the research with their children which a number did assisting in explaining what it was about and introducing the researcher to their child. Children were gathered as a whole group, introduced to the researcher and told what the research was about in terms they would understand and reflected in written information. Those able to write their names signed consent forms. The researcher was assisted by Activity Leaders children knew and trusted to be alert to any child that was not comfortable with research activities such as video recording at this point and throughout data collection. Children appeared to enjoy engaging in the research activities which were designed not to interrupt the normal routines of their activity day.

Informed consent was received in writing from most but not all children. However the process of talking to children and having written consent forms was a positive addition to the process of explaining the research. Where written consent was not achieved from children vigilance of the researcher and Activity Leaders ensured that no child was made

uncomfortable by research activities. In the case of four children permission was withheld for photographs in the public domain. Verbal consent to the children participating was however given. This meant that care had to be taken in ensuring any images planned for the dissemination of research did not include those children. This unfortunately led to cancelling the intended collage of journalists' photographs on the last day feeding back the children's work. Many of the children's photographs featured pictures of each other, something that the researcher realised on hindsight that she should have anticipated. A collage of pictures would have highlighted the absence of this group of children and probably been a source of disappointment and concern. The group's adult carers were contacted and reassured that photographs featuring their children were deleted immediately after this activity and these photographs were lost for the purposes of data collection. Children did have a collage of their drawings as part of their routine Activity Camp end of week celebration.

Beyond these particular issues of consent, consideration of harm or discomfort within the parameters of this research focused upon potential disruption to the children's holiday activities. Activity Leaders offered to create a programme of activities for the purposes of research but the researcher felt that this was not fair to children who regularly attended this Activity Camp and expected a free-choice environment. This did make data collection more challenging as has been outlined but was ethically the right decision as well as providing a completely free-choice environment to engage with the child participants. The researcher also consciously stopped video recording on one occasion when a tearful argument was being 'overheard' by the video camera feeling instinctively that this was intrusive.

Exploitation of child participants involves consideration of who benefits from research and for what purpose. Interests leading to the framing of research should be value free (May, 2001) and this led to the framing of a very open initial research question. Worthwhileness

of research was important in justifying the enlisting of children's support which might potentially impact on their recreation time. The researcher's motivation for the study was to try to do research which could lead to children having a stronger voice in provision for their physical activity in the future. The researcher's justification for the research was simply that it was a "right thing to do" (Alderson, 2014:87) particularly in relation to problems of childhood inactivity foreshadowing the research question.

In setting out to do this research the researcher was clear about her view of children as "meaning-making agents who can participate actively in the research" (Alderson, 2014:99). This led to the methodology, design and use of research methods which could contribute to a gap in emancipatory research with children in the field of physical activity.

All ethical considerations have a stronger impact in research with children because of the imbalance of power relationship between adult researchers and child participants. The impact of the adult research and other adult stakeholders such as the host company personnel need to be considered during all stages of research. Constant deployment of reflexivity for instance to guard against the researcher's own personal values impacting adversely on child participants. For instance, coming from a sporty background the researcher needed to guard against value judgements in the way that children's choices of activity were observed, analysed and reported.

## **Chapter 4. Data collection, analysis and results**

This chapter briefly sets out how data was collected and challenges experienced during data collection. A description of how data was analysed using Strauss and Corbin's three levels of open, axial and selective coding processes (Lewins & Silver, 2014) follows before reporting results. The process of analysing the data resulted in further development of the research question and this is also presented.

### **4.1 Data collection**

The data collection plan as set out in Section 3.4 was followed as far as possible. Timing of data collection one morning and one afternoon allowed for the sampling of difference times which might impact on data collection over the course of the day. There was one "superficially 'interesting' event(s)" (Hammersley and Atkinson, 2007:37). The Activity Camp was moved to a much smaller hall and weather was poor restricting activity choices on the second day of data collect both inside and outside.

#### **4.1.1 Video recording of children's choices of activities and naturally occurring talk**

The researcher carried the video camera with her on a tripod so that children became used to seeing the equipment and she could be ready to record activity. The researcher was mindful of Coates, (2002) concerns about violating children's space with videoing. She engaged children by agreeing to video staged activity then shared the playback. These sequences were not included in data collection but were a successful means of normalising videoing of naturally occurring activity. There was the danger that children would continue to 'stage' activity for the video camera. However after initial interest children appeared to forget the camera when engaged in their activities. Children as well as Activity Leaders readily volunteered to wear the radio microphones connected to the video recorder to assist in recording talk during activity.

It transpired that planned video recording of neat 5-10 minute episodes of activity was impractical. Some activity expired as quickly as it started. The researcher had to simply react to the research environment keeping alert to what all the children were doing. She then tried to anticipate and record activity as it started. She recorded either to its natural end point or a pragmatic judgement to stop recording was made when it was felt no new information was being collected. At the end of day one the researcher compared the activities videoed with the data collection plan and set out to try to fill gaps on day two. Eventually only the planned soft bricks area activity was missed from the plan. This was subsequently partially covered in unstructured photo-elicited interviews. Annex J details the video sequences recorded.

Unfortunately recording equipment did not cope well with environmental conditions of a windy outdoor football field and a very noisy echoing sports hall. As a result the researcher relied more strongly than anticipated on visual data from the video. Observation field notes described the generality of the nature and purpose of talk and provided some direct quotes which assisted in later transcription of recorded talk.

#### **4.1.2 Unstructured interviews – drawing and photo-elicited interviews**

Children were provided with iPads and tablets, invited to become “journalists” and take five photographs of things they loved about Activity Camp. They were then asked to talk to the researcher about them before handing the iPad/tablet to the next “journalist”. The researcher tried to develop an environment in which she and the child participant “became co-creators of data” (Punch, 2005:173). The researcher remained reflexive during the conversations, for instance being aware of her choice of children's comments she used to develop the conversations. Where recording was possible she was able to review this aspect of the data collection during analysis. Two interviews were recorded but the researcher had to employ the flexibility that Punch, (2005:172) refers to in capturing data during a dynamic activity day. A further challenge around this aspect of data collection was that like Coates, (2002) citing Browne (1996) the researcher sensed in two interviews

that what children said about their pictures appeared to be formulaic and an explanation that “they had realised was acceptable to adults” (Coates, 2002:20). Simultaneously other interviews developed into revealing animated narratives.

#### **4.1.3 Observation and field notes**

The researcher had to guard against being so fully immersed in the role of Activity Leader that she was unable to observe how the children were experiencing physical activity. Observation primarily took place alongside video recording. Note taking during activity sessions was virtually impossible if she was to fulfil the participant part of the participant–observer role. Children were curious about the researcher’s note taking which did not fit the role of Activity Leader. This meant that after a couple of unsuccessful attempts the researcher abandoned note taking until immediately after the sessions. Long detailed notes about what had happened that session were then made as a stream of consciousness and added to research memos.

#### **4.1.4 Digital photographs and drawings**

The photographs and pictures were all collected as part of the data set whether or not they had been used in unstructured interviews. Children gathered as a whole group to prepare drawings of what they ‘loved’ about Activity Camp as part of their traditional end of week celebration event. Annex I shows the collage of 30 drawings and Annex K examples of drawings with linked data from children’s talk about the Activity Camp that seems to support their choice of drawing. The researcher was struck by the similarities of this drawing session with that described by Coates (2002) of children talking and providing a narrative for their drawings. Whilst drawing children frequently made noises, talked and even stood up to actively role play what had been part of their physical activities during the Camp. This led to a reflection on the relationship between talk and physical activity and how there may be a parallel with Coates’s (2002) work. (Research Journal note 43).

By the end of data collection the following data had been collected:

**Table 3 to show data collected**

Data collection method	Data collected
Video recordings of children’s activity choices and audio recording of naturally occurring talk.	Eight sequences totalling 43m 51s – day one Seven sequences totalling 43m 25s – day two
Photo/drawing-elicited unstructured interviews	Two recorded interviews Three noted interviews
Observation and field notes	Four sequences of observation field notes
Analysis of children’s photographs /drawings showing the things they ‘loved’ about Activity Camp	38 Photographs 30 drawings

**4.2 Data analysis process**

The data analysis process comprised three analysis procedures using Strauss and Corbin’s open, axial and selective coding processes (Lewins & Silver, 2014: 162). These processes align with the reporting of results (open coding process – Chapter 4: Section 4.3), interpretation of results and findings (axial coding and selective coding - Chapter 5).

**Open coding – detailed coding of data**

Open coding started with a review of the first research question to identify initial codes to start the coding process. The process continued through constant comparison of detailed pieces of data with existing codes, developing new codes as needed until there were sufficient codes to describe all data. Each code had a detailed description of the properties of the data coded to it. Results of this phase of analysis were reviewed before undertaking the next process (axial coding).

**Axial coding – distilling data into higher order codes**

The description of properties and variations in each of the initial (open) codes provided ways of describing, re-grouping and “assembling the data in new ways” (Robson, 2011:149). This phase involved distilling and re-coding data into as few higher level codes as possible to describe the data set. The researcher manually colour-coded similar data



across all twenty open coded mind maps with different coloured post-it notes. Having made these new links and associations the researcher tried a number of ways of describing the newly gathered data testing new higher level codes with new properties and descriptors.

### **Selective coding – connecting the higher order coded data**

The final stage of coding comprised selective coding which linked the new categories produced from axial coding to potential “conditional *propositions* (or hypotheses)” (Robson, 2011:149). This took the form of combining codes into one final mind map adding explanatory links between categories until the best overall explanation for the data could be found. This stage of analysis provides the focus for interpretation of results and findings contained in Chapter 5.

Whilst the analysis is set out for clarity as a linear process, coding decisions were iterative going back and forth between coding processes and the data until this set of explanatory codes was achieved.

#### **4.2.1 The use of NVivo to assist data analysis and preparation of data for coding**

To start, all data comprising video recordings, transcripts of audio recordings, field notes, photographs and drawings were downloaded onto an electronic software data analysis programme called NVivo. The decision to use an electronic system to store, code and analyse data was based on previous experience which had demonstrated how time-consuming and labour-intensive manual coding and data analysis can be. Initial concern that the use of electronic software might remove the researcher slightly from the data was quickly proven unfounded. After initial open coding further analysis was undertaken manually as a pragmatic choice. The level of detail was manageable and the researcher was better skilled using mind mapping to manually code from this point onwards.

Transcripts of talk from videos were made and where appropriate noted against the contemporaneous video sequences. Coding of the visual and talk data took place simultaneously. An example of a transcribed and coded video sequence is shown in Annex L: Transcript and coding of the small-sided football game. Whetherell et al. (2001) advise that we need to be clear about the purpose of the transcribing in order to collect all the relevant features of talk. I transcribed the talk “in close detail showing the irregularities of ordinary talk” as outlined by Taylor (2013: 41 and 12) about Stokoe’s research into talk between disputing neighbours. The researcher took the approach that the children’s talk should be understood as part of living or in this case being active which:

“carries meanings for (most) people .... is more or less ongoing, and is done mostly without thinking or preparation” (Taylor 2013:40)

Talk in photo-elicited interviews was completely different to naturally occurring talk during activity. In the context of this small study however conversation analysis was applied consistently throughout. Annex M provides an extract of data transcribed for analysis within the NVivo software package.

In relation to photographs, the researcher was interested in the “ ‘voice’ of the camera” (Clark 2004:145). In particular she focused on any additional insights children’s choice of

photographs and also their drawings provided about how they experienced physical activity. All photographs and drawings were coded in the same way as video sequences.

#### **4.2.2 Development of the research question during analysis**

The researcher started the first phase of coding by referring back to the first research question and posing high level questions of the data which had the effect of developing Research Question one in the following way:

##### **RQ1 How do 5-11 year olds experience physical activity?**

- **RQ1.1 What are children choosing to do?**
- **RQ 1.2 What are children saying/expressing when physically active?**
- **RQ 1.3 How are children being physically active – in relation to activity levels?**
- **RQ 1.4 How are children being physically active – in relation to social grouping?**

The researcher mind mapped a very general description of the data shown in Annex F. This served as a 'coding diagram/logic diagram' (Robson, 2011:149) which gave her a few codes with which to start the coding process initially comprising 'noise and talk', 'high energy', 'small groups and lone'. This was extended as the coding process progressed. Each code had a definition of the properties of the data that it described as shown in Annex G. Research memos were written throughout the coding and analysis process providing a way for the researcher to interact with the data to interpret and develop understanding. The mind map in Annex F also serves as an example of the use of research memos carrying hand written notes and reflections on coding. The extract of the research journal in Annex B also demonstrates reflections on coding matters in entries 28,29, 32,34,35, 37 and 38 (Research Journal).

## 4.3 Results

Open coding resulted in twenty detailed codes in response to the revised first research question. These are shown in Annex G with their descriptors comprising:

Game playing, skills testing/practice; socializing; noise; talk; silence;  
high/moderate/low energy and sedentary; lone/small group/large group activity;  
physicality; fun; exploratory activity; older/younger; fantasy; equipment and leader involvement.

At this stage individual reports were downloaded from the software for each of the twenty codes. Each report listed each piece of detailed data coded from all data sources. An example of one report is shown in Annex H showing references to 'Fun'. Each report varied but this example shows data from one drawing-elicited interview, four photo-elicited interviews and four video sequences. A mind map was then prepared for each. A wall mounted collage of the twenty mind maps was then made as a way for the researcher to view the whole of the data set and continue with manual analysis.

## 4.4 Discussion of results

### 4.4.1 RQ1.1 What are children choosing to do?

Six interlinking properties of the data were identified. After some reflection game playing was sub-coded into creative games and traditional sport games. Each sub-code had distinctly different links to the data.

#### **Creative games**

Creative game playing was strongly linked to prolonged fantasy role play often co-created by participants (Research Journal ref: 37) comprising wrestling matches, car races and lorry deliveries (Games playing notes: 5; 25-29; 34-7; 1). Children's immersion in creative and fantasy play was reflected in their talk like Oliver being a racing commentator:

*"Kenny? has Won the Race" [Emphasis on W-on the R-ace – like a commentator] Whilst arms above head, jigging and turning on spot then turns to take hold of the car again and lifts self up off feet with hands on top of the car. (Games Playing note: 41)*

This coding note also demonstrates the link with 'having fun' which appeared to be a driver of activity. Some reflexivity was required to check how the adult researcher could judge whether what she was seeing was children having fun. She initially decided to limit coding to children's statements which explicitly mentioned having fun such as William's explanation about why he had photographed the giant bricks:

*"Because it's fun to play with and you can like make the old fortresses out of them and you they're really good for 'take cover'" (Fun note: 1)*

The researcher then extended the coding of fun to expressions associated with having fun such as Oliver's jigging and excited talk above and the parachute games (Fun notes: 24;26;3 Video sequence: 55).

### **Traditional sport and skills practice**

Traditional sport play was confined to one boys small-sided informal game of football (Video sequence: 62) and a contained two v two game in the active area of the sports hall (Field note 27.5.15). The coding was extended to include skills practice developing the concept of children 'playing at' traditional sport and this extended activities to lone and small group practice of basketball shooting (Field note: 26.5.18), football penalty shooting (Skills notes: 7-11), a child-devised football kicking game (Video sequence 59) and gymnastics practice (Skills 19-24). Much testing and practicing of skills such as balancing, bouncing high and coordinating bouncing with others was also visible in activity on the bouncy castle (Skills notes: 16-18; 25-27;28;29) and exploratory activity shared an element of challenge. Children seemed to be exploring their skills when taking basketball

shots or football kicks from increasing distances, trying different bouncing moves and Willow describes the reason for photographing the giant soft bricks as follows:

*“Soft play get to make different routes to go place” (Exploratory note: 11)*

### **Exploratory activity**

Bouncing on feet but also other parts of the body, jumping, and falling were all movements explored on the bouncy castle by the majority of children during the Activity Camp. Syncopated and coordinated bouncing was practiced collaboratively with other children. Children also deliberately and frequently made bodily contact with each other by wrestling, jostling and colliding into each other (Physicality notes:17;21;15).

### **Physicality**

Hugging and jumping on players to celebrate successes of the football game took place in a form of role play emulating professional footballers (Video sequence 62). The fun of the cars to Nalini and her Junior girlfriends is expressed by her:

*..always fun when jumping in a car when it is too small for you and running around look she’s doing it” (Fun note: 12).*

Ellie and Erica seemed to enjoy the sensation of handstands, cartwheels and other gymnastics movements (Video sequence: 60).

### **Socialising**

Interacting with other children appeared to impact on physical activity choices for most children most of the time. Socialising took place as part of but also as an aside to physical activity (Video sequences 55; 62). Much of children’s focus appeared to be on socialising itself. Physical activity became a vehicle for engaging with others or an incidental by-product. Children would arrive at the bouncy castle to bounce energetically or deliberately

collide into other children luring them into playing (Socialising notes: 29; 17). Photographs often featured friends and were a significant part of the explanation of what they liked about that activity (Socialising notes: 5; 7; 9). Activities like car chases appeared to be methods of connecting to an audience of children or the Leaders demonstrated in Oliver's appeal following a crash:

"Miss look at the state of our cars" (Socialising note: 22)

#### 4.3.2 RQ 1.2 What do children say/express whilst being physically active?

Three properties were identified in relation to what children said or expressed whilst physically active comprising noise or non-verbal expression, talk and silence. Early field notes identified the seemingly constant high level of non-verbal expressions coded as 'noise' during the Activity Camp (Field note: 28.5.15). Talk and the existence of silent activity also provided insights into the children's physical activity. Daily parachute games, ride-in car races and crashes and the calling of emergency service, play fights and battles were all accompanied with appropriate role play sirens and shouts. Non-verbal expressions and noise appeared to both express and raise excitement and energy levels of these activities. Talk also enhanced role play activity for instance in this extract of Oliver adopting the role of referee of a play wrestling match:

*Oliver: "One (beats the floor of the castle with his free hand) two (beats the floor of the castle with his free hand) three" (beats the floor of the castle with his free hand). Using wrestling referee's commanding voice.*

*(Video sequence: 0057)*

However talk appears to fulfil a broader range of functions in relation to the children's activity. It was instructional as demonstrated by Ellie as she talks Erica through achieving a handstand (Video sequence: 60; Talk coding, (10)-(13)), team members exchange advice within the football game and shape the activity (Talk coding: 41, 22, 23) and

children use instructions and directions to develop creative games (Talk coding, 45). Simultaneously silence accompanied some physical activity. These included the lone skills practice (Talk coding: 3-5, 9, 11, 14, 18, 21) and collaborative activities such as bouncing in the castle when the children's focus appeared to be on the physicality of the activity (Talk coding: 8, 10, 27-30) as in Willow's experience:

*"Bouncy castle always jump around and it's so much fun. Can bounce around and have fun" (High energy note: 8)*

#### **4.3.3 RQ 1.3 How are children being physically active: energy levels?**

Distinct contrasts were noticed with sudden short explosive episodes of high energy activity in an otherwise generally low to moderate energy activity environment. Coding moderate and low energy activity was extremely subjective but high energy activity was linked to the CMOs' definition of 'vigorous' activity where talking and being active would become difficult over a sustained period.

The children's high energy physical activity was dominated by the bouncy castle and car chases often accompanied by noisy non-verbal expressions and in-role talk. (High energy notes: 4; 13; 16 and -2; 18; 20) and in commentaries such as Oliver's:

*"And he's near the finish line ..... AAAAAnd and And Edwards  
wooooooon" (High energy note 18)*

Sudden high energy explosive chases or sudden launches onto the castle to disrupt others were witnessed (High energy note 17; 27). At face value there appeared no apparent purpose to these episodes beyond a simple expression of "joie de vivre". They were often initiated by one child infecting the rest of their small group accompanied by seemingly random screams and roars. These outbursts of energy could also have been embedded in ongoing role play with friends or simply beyond the researcher's adult capacity to comprehend.



The lead small-sided game of football resulted in the longest period of high energy activity observed with most of the boys moderately active for most of the time.

Moderate energy activities were broader in range, often using the same equipment but differently. Lone bouncing seemed to find the child as an onlooker or seemingly engaged within themselves in the pattern of their own activity (Moderate energy notes 19; 40; 44 and 38). Children frequently deliberately bumped, tripped and fell on top of one another making physical connection with others (Moderate energy notes 17-18; 20-23; 26-27; 42; 43; 45). This was distinct from more robust play wrestling between established friends engaged in a specific role play. The children engaged Activity Leaders in play wrestling and were rewarded by being picked up mid-bounce and dumped down on their backs much to their delight and prolonging the play with shouts of ““Save me, save me”, in a comedy squeaky voice” (Moderate energy notes 35-37).

Cars were used to simply give each other rides rather than race and crash (Moderate energy notes 4-6; 7; 11; 12; 15; 16). Four junior girls played at badminton. These included two sisters who, together with their mother, indicated that they liked to come to this particular Activity Camp because they were “not very sporty” and here they could do crafts and drawing activities as well as play sports. The girls’ skill levels rarely led to a rally. Nonetheless one explained she:

*...”really like(d) badminton find it fun doing earlier quite busy and fun,”*

*(Moderate energy note 13)*

Her sister referred to badminton being “safe” and being able to “play it indoors”. This is an interesting and unusual reflection which might relate to her experiences of sport and physical activity generally. This sense of persistence was also seen in Jenna’s lone practicing of football penalty shooting. Jenna was a self-professed enthusiast for football and Liverpool football club for whom she wanted to play (Research journal note 18.1). Her footballing was very focused on the actual penalty shot which she repeated many times.

She walked after the ball as it rebounded off the wall rarely breaking into a trot to collect or dribble the ball. Wallace's football skills game similarly only required moderate energy levels focused upon kicking the ball so it rebounded off a target wall. However in contrast, he and Xian, tended to trot after the ball and actively invest more energy in the play which seemed to be linked to skill level and confidence in collecting the ball to their feet at speed

A very different type of physical activity involved gymnastic and construction play with the large bricks. Nippers Ellie and Erica were often seen practicing their gymnastics indoors on mats and outside on the grass. (Moderate energy note 29).

#### **4.3.4 RQ 1.4 How are children being physically active: playing alone or in groups?**

There was relatively little lone activity outside the early session before the main body of children arrived when Wallace and Jenna practiced footballing skills and basketball shooting. Wallace and others bounced alone on the castle for short spells and seemed to enjoy testing their skills or simply enjoy the sensation of balancing and falling (Lone notes: 39-40; 44). Oliver also appeared to undertake quite a lot of lone activity but on reflection, following his request for a car crash to be videoed, his apparently lone play was generally orientated to an audience. The vast majority of physical activity took place in pairings or small groups of friends which remained constant throughout the week. Small friendship groups seemed to be bound by shared creative games and role play and creative games that endured throughout the week (Small group notes 10-11; 36-37). Oliver, Harvey and Pippa pursued a consuming joint interest in lorries throughout the week (Video sequence: 55). This was reflected in car chases and private play with model lorries from the toy box and featured strongly in their drawings (See Annex K).

There were only two large group activities both initiated and lead by the Activity Leaders. Both large group activities resulted in at least moderate energy level participation. Both activities involved talk and non-verbal engagement in the activities. Excitement levels were deliberately raised by the Activity Leaders during the parachute games encouraging

the children to shout responses. Meanwhile the footballers shouted instruction, called for the ball, celebrated skilled performance and bemoaned losses. Children's engagement in the large group activities was generally more intense than small group or lone activities. However social pairings and small group socializing continued within the parachute and football games. This took the form of children making game moves which would enable them to follow their particular friend and pursuing conversations unrelated to the game. Large group activities were sustained for much longer than small group or lone activities possibly due to the Activity Leader involvement.

Leaders' involvement in activities was most noticeable in the organization of the two large group activities. Outside of this Leader involvement was very much directed by the children who used them as a resource as illustrated in this coding note:

*"Noreen gets back up and holds arms out to the Leader to repeat the play.*

*Smiling and engaging eye contact as play friend." (Games Playing note: 48)*

Leaders primarily provided the children with additional company socializing with them, encouraging them in whatever they were doing and providing an audience for the children's activities (Leader notes: 13;20-24). Children occasionally asked for help for instance to bounce more efficiently in the castle (Leader notes: 27-38) and the nippers in particular liked them to join in their play (Leader notes: 14; 16-17; 19).

#### **4.3.4 Summary of results**

Table 4 summarises the range of coded data initiated by responding to the first research question and its sub-questions.

**Table 4 to show the first phase coding of data against revised research question one**

Data codes which contributed to a response to the revised research questions	Question being asked of the data: RQ1 How do 5-11 year olds experience physical activity?
a) Game playing (split into creative game playing and traditional sports play) b) Skills practice c) Socialising d) Physicality e) Exploratory activity f) Fantasy activity	RQ1.1 What are children choosing to do?
a)Noises (non-verbal), b)Talk, c)Silence	RQ 1.2 What are children saying/ expressing when physically active?
a)High, b)Moderate, c) Sedentary or Low energy levels	RQ1.3 How are children being physically active – in relation to energy levels?
a) Lone, b) Small group, c) Large group d) Involvement of a Leader	RQ 1.4 How are children being physically active – in relation to social grouping?

## **Chapter 5 Interpretation of results and findings**

In this chapter results of the initial coding of data are interpreted using axial coding and findings developed using selective coding. Findings about how this group of children experienced physical activity are compared and contrasted with the literature addressing each of the research questions in turn. In particular results are interpreted in relation to the three tenets of self-determination theory underpinning the SEM and DMSP.

### **5.1 Interpretation of results – axial coding**

By re-looking at the results of open coding four higher level categories were identified which appeared to explain the data. Table 5 shows the resulting categories together with new descriptors of the properties of the data in each category. Some descriptors reflect properties of the earlier (open) codes whilst others expand and develop the properties reflecting discussion of the results reported in Section 4.4 above.

Table 5 to show the second phase (axial) codes and descriptors

Phase two analysis : Axial Codings to show higher level categories of data	Descriptors / properties of the coding
Socialising	<p>This category covers activity focused upon or strongly motivated by social interaction, reinforcing or creating new friendships and 'having fun'. This was accomplished in creative play developed and maintained through role play talk and non-verbal expression as well as through socializing during collaborative traditional sport activities. Although not the focus of this study socialising also took place when not physically active and the need to socialise with friends could draw children away from physical activities and being physically active.</p>
Creative play	<p>Creative play combined the properties of exploratory activity ('finding out' and creative activities), fantasy activity (playing out a pretend/creative situation including role play by children in what they are doing and/or what they say) and physicality (activities undertaken for the simple experience of the movement).</p> <p>Creative play was often associated with short episodes of high energy activity, noisy talk and non-verbal expression usually in groups. Talk and non-verbal expression seemed to contribute strongly to the development and maintenance of creative play.</p> <p>Creative play was also associated with Nippers' activities although elements were seen in some Junior activities. It was also often associated with novel equipment such as the bouncy castle, giant bricks and ride-in cars which children may not have available to them on a day-to-day basis.</p>
Traditional sport play	<p>Traditional sport play included game playing (playing with an element of focus, organisation and competition) and skills testing/practice (repeated practice of a particular recognised sport skill) – best described as 'playing at sport' in that it uses the skills base and basic rules of the appropriate traditional sport without the whole structure. This took place at both high and low energy levels; with lone practice, small or large group games.</p> <p>Larger group games appeared to need an adult leader to initiate and organise play.</p> <p>Playing at traditional sports was associated with Juniors rather than Nippers although with adult leadership Nippers could be supported to participate.</p>
Equipment initiated activity	<p>Any structural or portable equipment which is central to an activity and/or stimulates activity. This was equally linked to Juniors as Nippers although the way equipment was used appeared to differ slightly. There appeared to be slightly more skills testing for instance bouncing on the castle by Juniors whilst Nippers engaged in more fantasy play and indulged in the sheer physicality of bumping and falling. Similarly it was used for high, moderate or low energy activity. It was associated with both creative play and playing at traditional sports. Traditional sports play was associated only with recognisably sport specific equipment and vice versa.</p>

Socialising appeared to dominate all children's physical activity choices supporting the importance of this aspect of participation in sport highlighted in a number of studies in the literature review (Butt et al., 2011; Tannehill, D. et al., 2013; Tomik, R. et al., 2012). This is supported by the SEM recommending teams be season long to allow team affiliations to develop which motivate stronger participation.

Socialising appeared almost synonymous with 'having fun' supporting McCarthy & Jones' (2007) finding that 'social involvement and friendships' were sources of fun and enjoyment which motivated participation and long term commitment to participation in sport. Simultaneously the SEM recommends an environment of festivity and celebration (Siedentop, 1998).

Creative play has strong overtones of the DMSP's definition of 'deliberate play' which includes elements of 'being done for its own sake, to be enjoyed with pretend qualities' (Côté et al., 2007). The DMSP promotes deliberate play for this age group for both long term elite athlete development and recreational participation in sport.

Reading of the literature provides a possible explanation for the relative lack of traditional sport play. A key strand of SDT and central to both the SEM and DMSP is the need for a sense of competence to motivate participation. Only the Juniors, (8-11 year olds) chose to play at badminton, football and basketball / netball shooting practice. They would have had some skills training in school whilst the Nippers (5-7 year olds) would have had much less if any experience of these sports and not with the full-sized equipment provided. McCarthy & Jones, (2007) highlight the enjoyment that mastery of physical skills can bring to encourage practice and simultaneously the demotivation effect that a lack of skills can have.

Linked to this sense of mastery, equipment initiated activity was most apparent with activities on the bouncy castle, over-sized foam bricks and ride-in cars. The children's high level of activity connected to the novelty of this equipment supports Engelen et al's., (2013) findings that children's "intrinsic motivations to play" can be captured with novel,

non-standard activity equipment. Again this connects with a sense of creativity fun and enjoyment.

## **5.2 Findings**

The final stage of coding comprised selective coding of the data to link the new categories to potential “conditional propositions (or hypotheses)” (Robson, 2011:149). This took the form of combining codes into one final mind map adding explanatory links between categories until the best overall explanation for the data could be found. Throughout the analysis processes a focus was maintained on what children did and said. Four key propositions emerged in response to the research questions.

### **5.2.1 RQ1 How do children 5-11 years old experience physical activity**

In their free-choice holiday Activity Camp children experienced physical activity by:

1. Creating and playing out fantasy games
2. ‘Playing at’ traditional sports
3. Socialising, making and nurturing friendships through active play
4. Exploiting the equipment and physical activity environment, particularly novel elements such as equipment or facilities, other children and Activity Leaders they would not have available on a day-to-day basis.

Figure 2 proposes an overall explanation of these findings showing the linkages between these propositions. What this model suggests is that for those children who were active, the children’s focus was upon socialising and also upon exploiting the activity environment. The outcome for some was creative play and for others ‘playing at’ traditional sport.

Whilst not the focus of this study, it must be noted that a significant number of children (up to half of the potential research participants) did not contribute data from being active. These children were happily and positively engaged in the creative / quiet play area or



outdoors with friends engaged in more sedentary play and crafting. No value judgement

is made here about these choices which are beyond the scope of the study.

Returning to those who chose physical activity, the way in which the children experienced physical activity was primarily in pairs or small friendship groups. Those groups appeared to be tight-knit, enduring and highly influential upon their choice of activities. Creative games appeared to develop at a level of intuition between group members which were often beyond the researcher's adult understanding. Maintaining friendships appeared as important in both creative play and playing at traditional sport as the game being played. Physical activity was highly collaborative in contrast to both the SEM and DMSP in which competition is a prominent feature. Talk and non-verbal expression was very important. It supported the development of creative games and progressed traditional sport play as part of the children's socialising.

Whilst there was little screen-based sedentary activity across all children in the Activity Camp, physical activity was generally at low or moderate levels. Children took part in little sustained physical activity that might have contributed to the Chief Medical Officers' recommendations of an hour's moderate or vigorous activity daily. It should also be noted that this was not a specific objective of the Activity Camp and some children specifically chose the Camp because it offered non-sport activities. The two periods of sustained higher energy activity were both organised by Activity Leaders.

Finally the study was too small scale to identify conclusive evidence of differences between how boys and girls experienced physical activity. However there appeared to be more girls who opted for crafting activities and socialising in the quiet area. No girls took part in the small-sided football game even though a female Activity Leader took part. Apart from the parachute games in which both boys and girls were fully animated, high levels of noise seemed to be from boys often linked to role play and short bursts of high energy activity.

### **5.2.2 RQ2: To what extent do children's actions and words when physically active support the three tenets of self-determination theory (SDT) within the Sport Education Model (SEM) and the Development Model of Sport Participation (DMSP)?**

#### **Autonomy**

Children had complete autonomy to choose how to participate in a range of screen-based, arts and craft, sport and physical activities during their holiday Activity Camp. Only approximately half of the children appeared to take part in physical activity and did so at relatively low to moderate energy levels. The SEM and DMSP apply to regulated situations in which increasing autonomy can increase motivation to participate in a specified physical activity goal. Nonetheless, aspects particularly in the way the SEM encourages autonomy could be applied to the Activity Camp to encourage greater participation in sustained and more energetic physical activity. The SEM encourages autonomy through shared responsibility for physical education activities. Children are encouraged to take part in a choice of different roles associated with activity for instance as umpire, scorer or team manager. This could be equally applied to the Activity Camp to encourage participation by engaging children in planning activities they might want to undertake that week and sharing organising roles. It is also noted that the impact of removing autonomy briefly, requiring children to take part in the daily parachute games session provided some children with their only significant sustained physical activity.

#### **Relatedness and socialising**

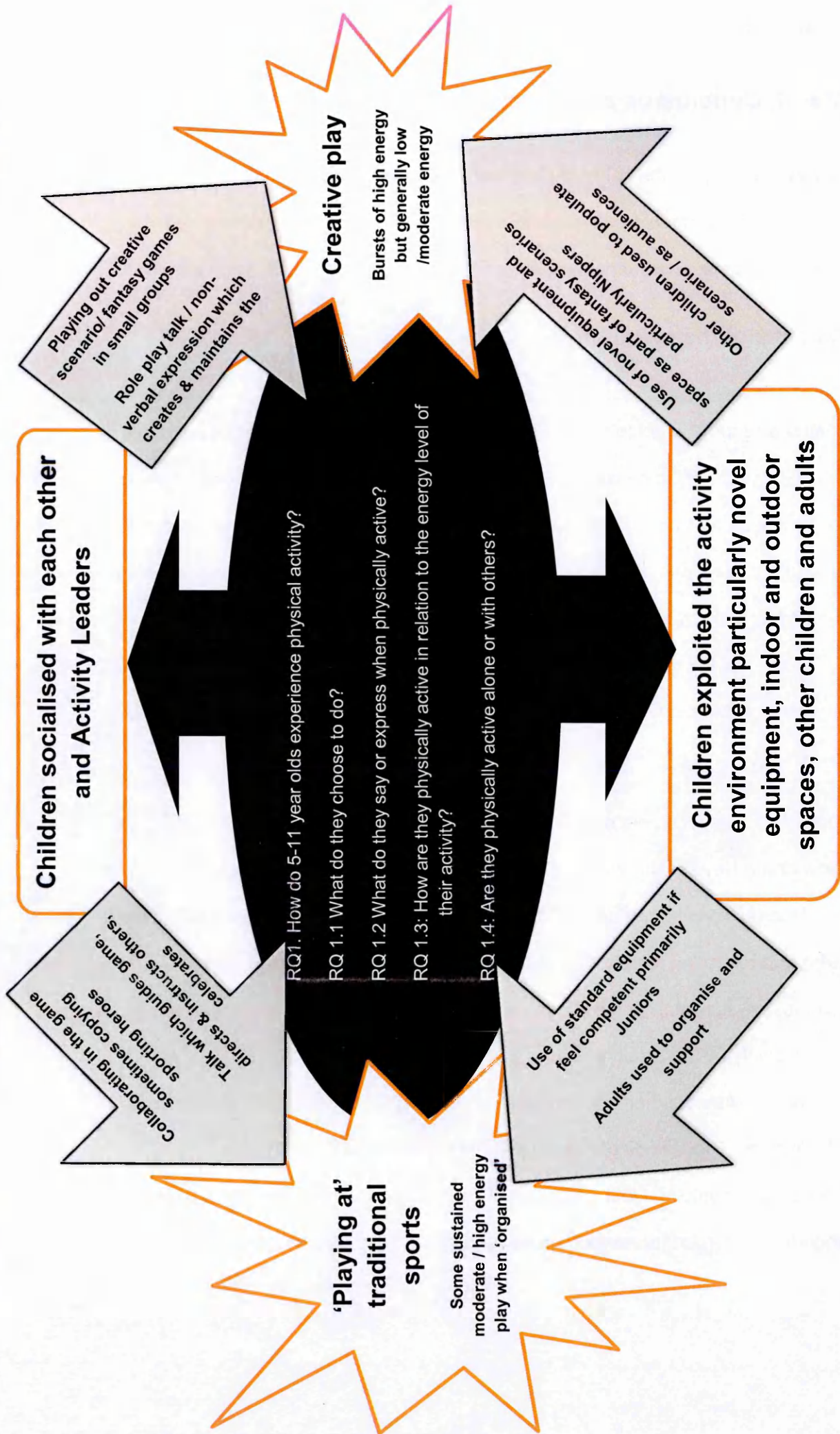
Children demonstrated the importance of the second key tenet of SDT, with friendship groups strongly influencing what children did and how they did it. Talk and non-verbal expression were integral to physical activity and socialising through creative play and sometimes accompanied or encouraged short periods of higher energy activity. It appeared that the act of mutually and actively developing creative games was indistinguishable from socialising activity. Creating and playing out roles appeared to contribute to children establishing themselves with their peers. This was not limited to

creative play. Socializing, scuffling and banter between players within the small-sided football game or on the bouncy castle also demonstrated this phenomenon.

### **Sense of competency to take part in physical activity**

A lack of sense of competency to play at traditional sport may have underpinned the lack of participation of Nippers in this type of activity. Juniors who would have developed some skills by 8-11 years did play some badminton and practice football and basketball shooting. This finding could be supporting the SDT tenet that a sense of competency is required to intrinsically motivate participation.

Figure 6 to show how the children experienced physical activity in the free-choice setting of their Activity Camp



## **Chapter 6: Conclusion and recommendations**

In this chapter findings of the study are related to the overall aims and objectives of the research. Limitations and lessons learnt in conducting the study are reviewed and recommendations made for further research.

### **6.1 The aims of the research**

This small scale study aimed to capture the naturally occurring activity choices and talk of a group of 5-11year olds to develop greater understanding of their motivations for being physically active. It also aimed to fill a gap in research with this age group particularly in relation to free-choice time physical activity. Finally it set out to see if the children's activity choices and talk supported key tenets of the SDT which underpinning the SEM and DMSP. The aims of the study were foreshadowed by concern that children's activity levels are falling short of the UK Chief Medical Officers' (CMOs') (Eastwood, 2014) targets for physical activity.

In this free-choice environment only half of children chose to be physically active and then only at low energy levels. Naturally occurring physical activity choices, children's talk and non-verbal expressions highlighted the importance of socialising and creative active play. Socialising and exploiting the physical activity environment seemed to be the main motivators for physical activity resulting in high levels of active creative play particularly but not exclusively by the Nippers. This supported Engelen et al's., (2013) study with primary school children in their school playtime. Meanwhile some traditional sport was played by Juniors. These findings supported all three tenets of the SDT and recommendations contained in the SEM and DMSP. These two models are used to frame recommendations for further research at the end of this chapter.

## 6.2 Reflections and evaluation of the study

A number of limitations are recognised and lessons learned from the conduct of this study. The methodology and methods of data collection were successful in collecting naturally occurring physical activity choices. However, recording naturally occurring talk in a busy activity environment was challenging and did not result in high quality data. Capturing data 'as it occurred' also reduced the quality of data and meant that some opportunities were lost as children were active in different places simultaneously. The potential to leave a static video camera or cameras running within a more confined activity space would be worth investigating in future research. Participant observation in this setting was also difficult. Ethically the researcher had to respond to children's requests to participate in activities to retain the position of 'participant-observer' but this curtailed observation and note taking was only possible immediately after data collection sessions reducing the detail and quality of recall. Working with a convenience sample lead to the need to collect data sensitively around the presence of a group of children whose images could not be used in a public domain. A major strength of this study was that by working with children in their holiday Activity Camp the study contributes to a gap in research into children's unprogrammed free-choice time physical activity. This small scale study is not generalisable but could be replicated closely in other free-choice activity camps across the UK.

The use of grounded theorising and conversation analysis techniques supported a key aim to develop insight from children's own activity choices and talk. This inductive approach proved successful in developing a potential model to explain how this group of children experienced physical activity in their Activity Camp. The NVivo software analysis was extremely useful in supporting the initial analysis of a large and varied set of data. More extensive use of this software would enable even more detailed analysis with larger data sets using this approach to the research in the future.

Finally the use of the Sport Education Model and Development Model for Sport Participation have effectively grounded findings from this small group of children in wider research.

### **6.3 Recommendations for further research**

Insight from this study has highlighted a number of avenues for further research. The following examples directly link to the two theoretical models used and would build on existing growing bodies of research:

**Investigating how the power of socializing can be harnessed to encourage physical activity.**

The SEM assigns children to long term teams to encourage affiliation to the team can motivate participation in PE. Research into applying this principle to the free-choice environment of the Activity Camp might lead to strategies to motivate increased physical activity. Games between friendship groups established for the week might sustain higher commitment.

**Developing competency to participate in activities.**

The SEM encourages early development of competency through extended periods of participation in one particular activity giving time to develop skills. In parallel the DMSP balances deliberate play with deliberate practice ensuring that the fun of play activities can support practice of skills transferable across sports. Research focused on the potential and impact of applying 'deliberate play and deliberate practice' activities in children's Activity Camps may reveal benefits of early competence development on physical activity in free-choice time.

**Embracing creativity in activity choices.**

Research focused upon embracing creative play as a means of motivating children to be active would appear to have great potential. This could equally include older children adopting the persona of a sporting hero within traditional sports as younger children being engaged in active creative fantasy play.

In order to encourage a new generation of more active young people more research is needed to find ways of motivating children to choose physical activity in their free-choice time. PE, school sport and community sport programmes have an important role to play but these alone are not succeeding in reaching the UK Chief Medical Officer's recommendations for children's activity levels. The Sport Education Model and Development Model for Sport Participation appear to have potential for application to children's free-choice time. These may stimulate strategies to develop intrinsic motivations for children to be active as part of their day to day lifestyle choices.



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## References:

Field notes

NVivo open coding reports

Research journal

Annex A: The Development Model of Sports Participation (DMSP)

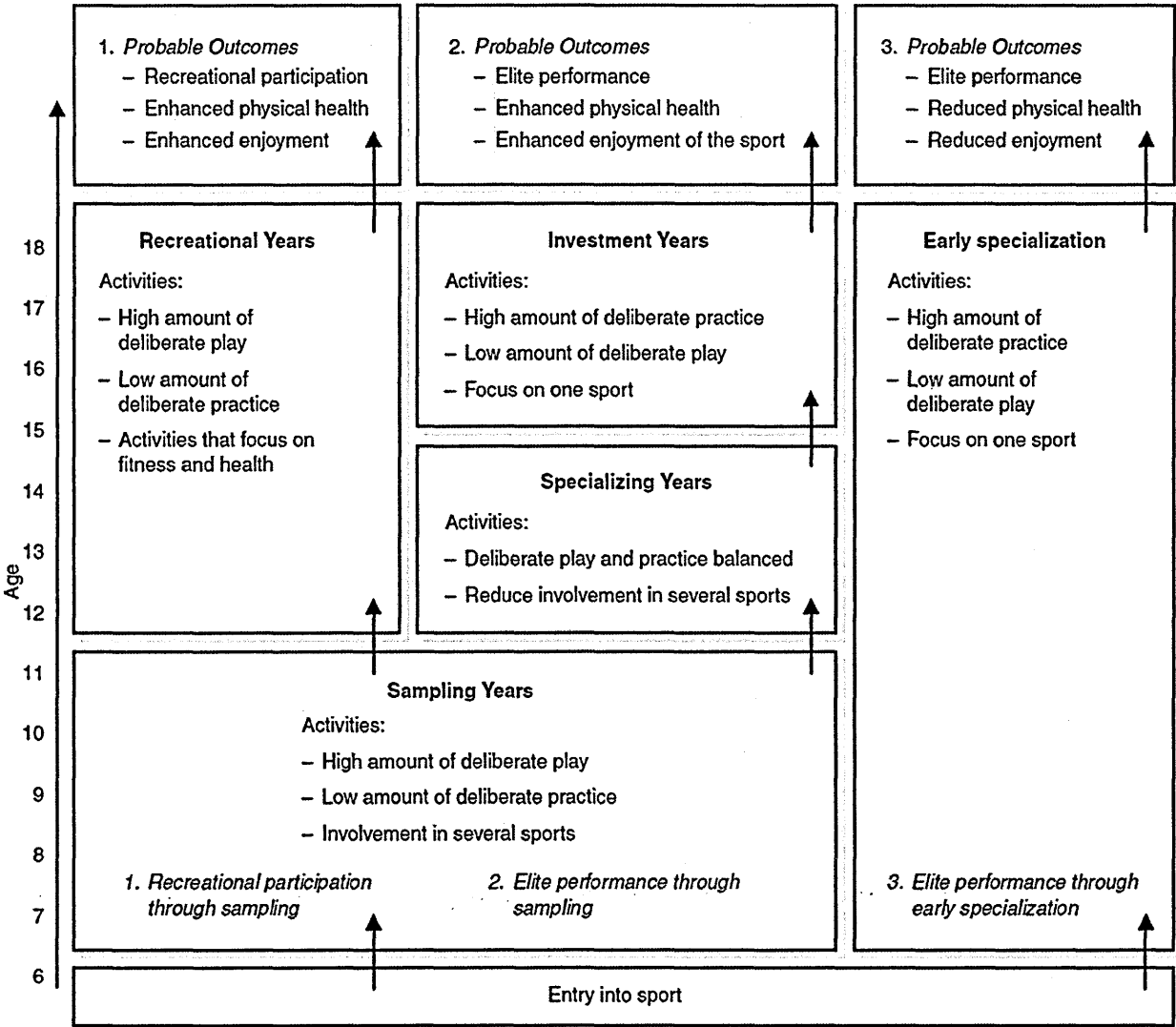


Table 8.1 Differences between Deliberate Play and Deliberate Practice

Deliberate Play	Deliberate Practice
Done for its own sake	Done to achieve a future goal
Enjoyable	Not the most enjoyable
Pretend quality	Carried out seriously
Interest on the behavior	Interest on outcome of the behavior
Flexibility	Explicit rules
Adult involvement not required	Adult involvement often required
Occurs in various settings	Occurs in specialized facilities

Côté, J., Baker, J. & Abernethy, B., 2007. Practice and Play in the Development of Sport Expertise. In *Handbook of Sport Psychology: Third Edition*. pp. 184–202.

**The Sport Education Model**

Six key features which derive from how sport is conducted in community and interschool contexts

FEATURE	DESCRIPTOR
Seasons	Periods dedicated to a particular activity match the normal 'season' of the sport rather than comprise short taster periods before moving on to another sport
Affiliation	Students become members of a team that endures for the whole season
Formal competition	Participation in the sport mirrors the sports typical pattern of practices and regular competition
Culminating event	Mirroring the typical type of end of season event importantly providing opportunities to celebrate accomplishments
Record keeping	Records that define the standards and measure achievements to encourage setting and working towards goals
Festivity	The creation of an environment of celebration of achievements

Prepared from: Siedentop, D. (1998). What is Sport Education and How Does it Work? *Journal of Physical Education, Recreation & Dance*, 69(August 2015), 18–20.  
doi:10.1080/07303084.1998.10605528

## Annex B: Extract from research journal and reflexive memo

CODE	DATE	ACTIVITY / REFLECTION	IMPLICATIONS/ FOLLOW UP	DATE F/Up	PLAY SPACE	Docs	Vitae ref:
28	120815	Memo during coding – addition of codes “Fantasy” and “Leader involvement”	Pick up in Findings chapter	Findings write up	See memo for follow up into findings	Research Journal/120815 Memo	
29	120815	Coding video 0068	Is there a correlation between low energy and socialising? During low energy are children still enjoying the ‘physicality’ aspects e.g. of standing on the bouncy castle as it is being used?	Axial coding of video data			
30	120815	Coding 0068	Different uses of language Code into more detail when undertake the CA process		<ul style="list-style-type: none"> <li>• To flag next actions</li> <li>• To explain what actions mean / what doing (e.g. in fantasy games where may not be obvious to others on bouncy castle – see 0068)</li> </ul>		
31	120815	Impact of videoing on the behaviour of children	Video sequences 0066 and 0067 demonstrate ‘staged’ behaviours. Still relevant as Oliver was only asking to have videoed what he was	Review of methodology – participant observer role	Is this the impact of ‘audience’ on physical activity and/or a form of ‘socialising’?	NVivo coding of videos	





33	<b>120815</b>	Classification of research participants – need to keep thorough record	Have found difficulty matching records with registers and consent forms.	Future research			
34	<b>130815</b>	Coding – link coding items in a sequence where linked to show in shorthand a single episode of that coding	Gives a better sense of the whole of what is going on in that coded 'event'	Preparation			
35	<b>170815</b>	Extended engagement in any one activity tended to be Activity Leader lead – parachute and football game.	The role of the 'facilitator' in a free-choice activity environment. Who is available in that free-choice environment to take the role of facilitator – parents, grandparents, older siblings, sports leaders?	Findings / future developments			
36	<b>170815</b>	Given the amount of tumbling and play wrestling, there was a remarkable lack of upset / tears / errors in play potentially suggesting a high level of collaborative play.	Role of collaborative play in fulfilling the recommended / appropriate activity levels for children	Findings / future developments	Mentioned in analysis 190815		
37	<b>190815</b>	Games playing: confusion during coding. See note	Continue to work through in analysis –	Having run the coding a key point on first glance appears	See memo: /Research memo/190815/Definition of games playing		

		earlier on open coding mind map and decision to 'just carry on'	perhaps will become clearer in axial coding?		to be the specific use of the term 'game' in the context of 'game playing' i.e. inferring not serious, implicit focus on fun and taking part rather than competition. Is that the separation? Focus of fun v competing???	(Shown below)	
38	190815	Coding "fun" – how can I judge what 'fun' is beyond children themselves saying it?	Realised that coded activity that seemed lacking obvious purpose but sustained as being 'for fun'. That is own rationalisation of the activity because I can't see any other. Need to look for children's active statement/expression of fun and use this in more accurate coding. Review coding of fun. Add a note in methodology as an example of reflexivity:	Review of reflexivity	Use direct references from children that something is fun. Use indicators such as 'smiling'; 'excited voices' as references from CA about how expressed information about what they were doing and why.	See "Fun" mind mapping of coding	

## **File ref: Documents/MEMO 190815 Definition of playing games for coding**

### **MEMO: Definition of games and games playing**

#### **Question of the data: "What are the children doing?"**

**Games defined by / initiated by equipment available** – standard sport specific and nonstandard or non-sport specific e.g. the soft bricks.

Standard sport specific tend to define at least the sporting use e.g. football goals and shooting rings and badminton nets

Non-standard equipment open / more open to imaginative use e.g. building routes through and battle 'games'

Links to ecological aspects of being active – 'playing'.

#### **Game as defined by purpose**

**"Game"** to take part and have fun i.e. no defined rules, rules and methods of proceeding co-created by participants and are transient to be reformed by next group that take part

**"Game of sport"** e.g. game of football/badminton/basketball conform or relate to an existing and accepted set or rules and there is a reference to competing whether by scoring or defeating another side or achieving a defined goal. So in the latter case a Game of gymnastics is about perfecting and 'accepted technique / shape of a move'.



## Annex C: Research host website promoting the Activity Camp

**'KidzSize' Activities** offer an impressive choice of programmes that will keep youngsters busy all year round.

With a superb range of holiday childcare activity camps, weekend activities and children's parties **'KidzSize'** provides reliable, professional services with recognised quality marks and approval from OFSTED and BAPA.

When your child takes part in any **'KidzSize'** programme, you can be confident that they will experience the 'KidzSize' concept. This is designed for children between the ages of 3 and 14 years old, working in groups of mixed abilities and varying levels of experience. The 'KidzSize' concept always puts the wellbeing of children first, and through fun, inclusive, friendly and fulfilling experiences, aims to build self-esteem and confidence through participation.

### *Give your child an action filled school holiday with our OFSTED approved Multi Activity clubs!*

The school holidays are a busy time and at Kidzsize we have developed an outstanding multi activity club that really does have something for everyone! Our OFSTED registered and approved clubs provide care for 4 - 10 year olds in a safe, friendly and fun environment.

We offer three different time options for parents to best childcare requirements choose from the following:

- 08:00am - 10:00am - **Early Bird** (includes breakfast snack)
- 10:00am - 4:00pm - **Core Day**
- 15:00pm - 18:00pm - **Late Stay** (includes afternoon snack)

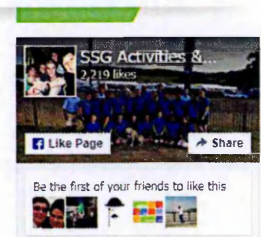
Children are free to explore the various 'KidzZone' areas throughout the day and interact with children and staff as they wish. Zones include:

- **Chill out Zone** - Bean bags, books, puzzles, board games and DVD's
- **Gaming Zone** - Games console (limited usage permitted)
- **Inflatable Zone** - 2 bouncy castles
- **Rally Zone** - Race our fantastic rally go carts round the track!
- **Creation Zone** - Arts and crafts and junk modelling activities
- **Active Zone** - Sports equipment including badminton, football, dodge ball and much more
- **Play Zone** - Soft play climbing equipment and tunnels
- **Mini Town Zone** - Dress up, ride on cars, kitchens, workshops and much more!

Children also get to engage in their choice of structured workshop tasks throughout the core part of the day. Workshops are led by our staff and are provided at no additional cost!! Workshops include:

- **Cool Cooking**
- **Exploring Nature**
- **Construction Capers**
- **Super Sports**
- **Outdoor Adventure**
- **Performing Arts**

Our friendly and experienced staff members will provide a warm and welcoming environment and will ensure that all children feel comfortable and support integration with other children.



#### Follow Us on Twitter



Downloaded 11/08/15 <http://www.ssgservices.org/activities/kidzsize-activities/holiday-clubs>



## **Annex D: Informed consent forms and information to participants and parents**

### **Annex A: Information letter for parents of potential child research participants**



By hand/email

Dear Parent/Guardian/Carer

#### **Finding out what children aged 5-11 years old say about being physically active.**

I am looking forward to meeting your child at the activity event during half term. I am hoping to carry out research with some of the children participating in the event. The purpose of this letter is to explain what the research is about and to invite your child to participate.

The research is a pilot study for my PhD investigation into children and physical activity. My general interest is about the role of physical activity in well-being in early childhood. The aim of the study is to find out what physical activity means to children around 7 or 8 years old by listening to what they say and observing how they participate in activities. There is rising recognition that even young children have highly valid first hand understanding of the world and engaging them in research about matters that involve them can be very rewarding.

The research will be woven into the activity event and should not inhibit the children's natural enjoyment of the day. Indeed we hope that it will add another layer of fun. For instance, as part of the event each child will be invited to take turns at being their group 'journalist' to take pictures of the activities they enjoy. Children will be recorded via radio microphones worn by their group Sports Leader and videoed or observed taking part in the various activities during the event.

All information collected as part of this study will be anonymised and confidential and kept in accordance with the Data Protection Act (1998) and Freedom of Information Act. You can request to have any data specifically related to your child destroyed. The data will be stored securely in electronic form and will not be forwarded to any third parties. The study will be carried out in accordance with the ethical guidelines of the British Educational Research Association. With your permission, anonymised data comprising quotes from children, video extracts and photographs may be used in interim reports, presentations and the final thesis which will be available to you via the research website when complete. In addition to show my appreciation, highlights of the children's activities will be posted shortly after the event on SSG's website as a celebration of the event.

I would be pleased if you would consider the opportunity to take part in this research with your child. I have attached an information sheet for children which I hope will assist you both to decide if he/she would like to take part or not. Please assist your child in completing their consent form, complete the parental consent form and bring both to the first day of the activity week. If your child decided to take part but changes their mind for any reason they are free to withdraw at any time without the need for explanation or any adverse consequences. They would simply have to let their group Sports Leader know and they could take part in all the activities as usual but in a group which was not being videoed, recorded or observed.

If you would like any further details please contact me using the contact information below or alternatively you can contact my supervisor, Dr. Grace Clifton at the address below or via telephone on 01908 858864.

Thank you for your interest in reading this information. I hope you and your child will be interested in taking part in the research and look forward to hearing from you.

Kindest regards

*Linda C. Plowright*

#### **Research Student**

Faculty of Education and Language Studies, Stuart Hall, The Open University, Milton Keynes, MK7 6AA Mobile: \_\_\_\_\_ Office: \_\_\_\_\_





Research information sheet for potential 7-8 year old research participants

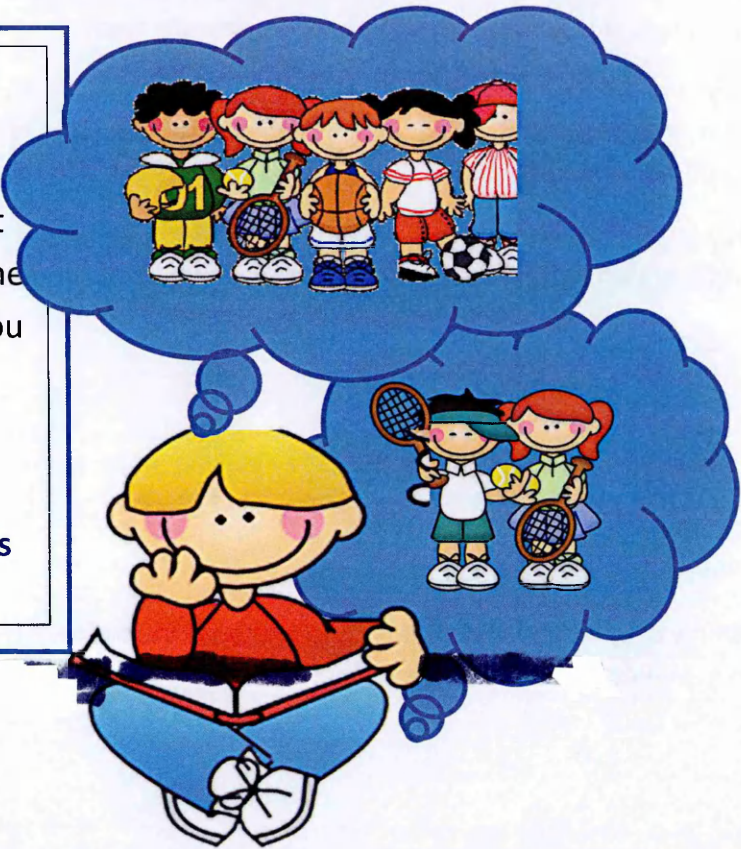
What do you like and not like about being active?

Hello - Can you help me?

I am going to be at your play scheme next week. I hope that you and your friends will help me to find out what children like you enjoy about being active.

Linda

(I'm a researcher and my job is to find things out)



I would like to video you and the other children at your play scheme. The video will show me what you enjoy and record what you say about the activities. This can help adults to plan even more fun activities.

If you don't want to be in the video it is not a problem. You can also change your mind. All you have to do is to tell an adult. You will still be able to take part in all the activities.

The video will be used carefully. It will be deleted when I have finished the research.

If you would like to take part in the research please let me know. Put a circle around your answer to each question below. Ask an adult if you need help.

Do you have any questions about the research? YES NO

Would you like to take part in the video? YES NO

Would you like to have what you say recorded? YES NO

Write your name here: .....

Thank you Linda

Parent consent form



Faculty of Languages, Education and Languages Studies (FELS)/  
Centre for Research in Education and Education Technology (CREET)

**“What 5-11 year old children say about being physically active”**

**Consent Form for Research Involving Children**

As a parent/guardian you are making a decision whether or not to have your child participate in this study about “What children aged 5-11 years say about being physically active”. Your signature indicates that you have read the letter providing information about this research and have decided to allow your child to participate should they wish to do so. A separate combined information leaflet and consent form has been provided for your child to read and sign indicating if they wish to take part or not. Positive responses from both you and your child will be needed before your child is involved in the research.

You will receive a copy of the consent documents.

_____ Signature of Parent	_____ Date
or Legally Authorised Representative	

_____ Signature of Investigator	_____ Date
------------------------------------	---------------

Please use the envelope provided and hand this form to a member of the SSG staff at morning registration of the play scheme by Thursday 28<sup>th</sup> May 2015.

\_\_\_\_\_



## **Annex E: Activity Leader Briefing Note**

### **ACTIVITY LEADERS' BRIEFING NOTE:**

#### **Rest period discussion about the children's photographs of their activities**

The purpose of this session is to get the children in your group talking about playing games, doing sport and generally being active. There are no right or wrong views. The most important thing is that all members of your group have a chance to express their views, in whatever way they want to and HAVE FUN!

#### **At the start of the session:**

Explain that you would like their help in understanding what children of their age like and don't like about physical activity and their views generally about being active.

#### **Getting discussion going:**

To start ask them to show you any photographs they particularly like from those taken by the 'group journalists.'

When a child chooses a photograph, ask them to describe what it is showing and ask them another question about the photograph.

Ask 'open' questions i.e. questions that will get them talking, rather than closed questions which may give you a 'Yes or No' answer. The sorts of questions you could ask are:

- What do you like about the picture/ the activity you have photographed?
- What was happening?
- Why did you take that picture in particular?
- Why was this fun?
- When do you play games like this?

Encourage and praise ideas and comments. Help by repeating things that the children say using their exact words to show you have listened and understood.

Encourage every child to have a turn in selecting at least one favourite photograph to tell you about.

#### **Gathering the group discussion together for the end:**

About 5-10 minutes from the end of the break start to bring the session to an end by asking the group:

- What would your favourite activity session be like?
- What was the best thing that you ever took part in?

Manage their answers by inviting them to contribute in turn.

If you need more questions to prompt their ideas you could ask:

- What sorts of things do you do/like to do?
- Why do you like to do those things?
- What else would you like to do?
- Who do you like to play and get active with?

- When do you like to play and get active?

**To close the activity:**

Take a few minutes at the end to take a final look as a group at each of the photos that the group have taken.

Give your full attention to the photographs and briefly praise and appreciate each one.

Thank the children for their thoughts and emphasise how helpful this is to help plan activities for children like them.

Ask if any child would prefer any photographs were kept private or if they would like to see the photos on the website celebrating the day. Be vigilant to spot any child who seems uncomfortable even if they have not said they want to keep anything private and approach them separately to check their wishes later. Make a discreet note of any photographs that a child wishes to keep private so that their wishes can be honoured without drawing attention to them.

**The child's right to withdraw from research activities.**

The child has the right to withdraw from any or all activities that are involved in the research activities associated with the activity day at any time. Leaders should remain vigilant to potential signs that a child does not want to take part in an activity, or does not want to be photographed, videoed or recorded. They may not tell you that they are uncomfortable. If you feel a child is becoming withdrawn, ceasing to enjoy the activities or is showing some other indicator of potential discomfort you should check discreetly with them. The child can be transferred to another group which is not involved in the videoing or recording the activity and continue to enjoy the activities. Should you continue to have concern enlist the assistance of another coach to help.





## Annex G: Open coding showing development of twenty detailed (open) codes

Questions asked of the data to prompt initial coding / prompt for new codes	Starting codes	Codes added/ amended during open coding/ initial review of data	Properties of the data
What are children doing?	<b>Game playing</b>		This activity has an element of focus, organisation and can be both competitive or collaborative in nature
	<b>Skills testing</b>	<b>Skills practice</b>	This describes repeated practice of a particular activity skill Difficulties noted with this code during open coding Changed to
	<b>Socialising</b>		This is activity that is focused upon/strongly motivated by social interaction
	<b>Noise</b>		Non-verbal sounds, on own or accompanying activity; related or potentially unrelated to the activity
'What are children saying / expressing?	<b>Talk</b>		Any words, phrases or conversation, related or unrelated to activity
	<b>Silence</b>		Activity without talk or noise
	<b>High</b>		Activity that would raise heart rate, could be explosive or sustained, child would be slightly breathless for even a short period
	<b>Moderate</b>		Child would be active but unlikely to raise heart rate significantly and able to talk without panting
How are children being active in terms of energy levels?	<b>Low</b>	Sedentary	Liken to 'pottering about'; child doing things but not as whole body exercise Low changed to " <b>sedentary</b> " part way through coding
	<b>Lone</b>		Child would be on own or active in something that is independent of what is going on around them
	<b>Small group (inc. pairs)</b>		Child active with one or two others. Some level of interaction however small
	<b>Large group</b>		Over four or five this is likely to be typified by a level of organisation, possibly game-like
How are children being active in terms of other children?			

During coding of photo-elicited interviews became aware of these property in what children said		<b>Physicality</b>	References to feeling that physical activity provide
		<b>Fun</b>	Where children have indicated this as an outcome or a motivation
		<b>Exploratory activity</b>	Finding out and creative activities
		<b>Older</b>	Juniors aged 8-11 yrs
During coding pattern appeared to emerge in preferences in the physical activity children chose by age		<b>Younger</b>	Nippers aged 5-7 yrs.
During coding saw high proportion of talk and non-verbal expression associated with role play and games		<b>Fantasy</b>	This node includes activity which is playing out a pretend/creative situation including role play by children in what they are doing and/or what they say.
Equipment started as a property as potentially affecting the children's activity / activity choices and how they were active but was dropped then reintroduced during open coding.		<b>Equipment</b>	Any structural or portable equipment which is central to activity / stimulates activity
Reflection on the common denominator of the Activity Leaders' presence and leadership in the only two large activities during data collection.		<b>Activity Leader</b>	Any situation where leader involved in the activity or discussion
Questions asked of the data to prompt initial coding / prompt for new codes	Starting codes	Codes added/amended during open coding/ initial review of data	Properties of the data

Annex H: Example of a report from NVivo showing all data related to the ‘Fun’

1. <Internals\\Children's drawings\\Individual drawings> - § 1 reference coded [1.54% Coverage]

Reference 1 - 1.54% Coverage

William	Because it’s fun to play with and you can like make the old fortresses out of them and you they’re really good for take cover	
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2. <Internals\\Photographs\\Tablet photographs\\IMG 20150528 104550 Holding badn racquet fJM9> - § 3 references coded [100.00% Coverage]

Reference 1 - 100.00% Coverage

0,0 - 2600,1950

Reference 2 - 100.00% Coverage

"[Name of sister] and badminton racket really like badminton find it fun doing earlier quite busy and fun"

Reference 3 - 100.00% Coverage

Smiling to camera, racket and shuttle held alert racket head up fist clasping above hand hold position and shuttle in other hand. Proud and upright pose.

3. <Internals\\Photographs\\Tablet photographs\\IMG 20150528 104608 Bouncy castle fJM9> - § 2 references coded [100.00% Coverage]

Reference 1 - 100.00% Coverage

0,0 - 2600,1950

Reference 2 - 100.00% Coverage

"Bouncy castle always jump around and it’s so much fun. Can bounce around and have fun"

4. <Internals\\Photographs\\Tablet photographs\\IMG 20150528 105625 Car and girl squeezed in fJV9> - § 2 references coded [100.00% Coverage]

Reference 1 - 100.00% Coverage

0,0 - 2600,1950

Reference 2 - 100.00% Coverage

"Car and [name of sister] always fun when jumping in a car when it is too small for you and running around look she's doing it" *child pointed out someone pushing a car*

5. <Internals\\Photographs\\Tablet photographs\\IMG 20150528 105629 Car and girl squeezed in fJV9> - § 3 references coded [100.00% Coverage]

Reference 1 - 100.00% Coverage

0,0 - 2600,1950

Reference 2 - 100.00% Coverage

"Car and [name of sister] always fun when jumping in a car when it's too small for you and running around look she's doing it" *child pointing to another child pushing the car*

Reference 3 - 100.00% Coverage

Two pictures like this

6. <Internals\\Video\\Video activity sessions\\00054 Lone football practice> - § 2 references coded [13.21% Coverage]

Reference 1 - 6.24% Coverage

3. MJnr1 and MJnr2 bounced and fell at same time deliberately sprawled on castle floor. MJnr2 fell partly on top of MJnr1 deliberately.

Reference 2 - 6.97% Coverage

MJnr 1 and 2 deliberately bounced into each other; MJnr2 retaining feet, MJnr falling? deliberately onto curtain of castle

MJnr 1, 3&4 jostling at back of castle

7. <Internals\\Video\\Video activity sessions\\00057 Bouncy castle boys game> - § 1 reference coded [5.05% Coverage]

Reference 1 - 5.05% Coverage

Two at rear play wrestle pushing mN pulls mJ1 down into corner almost on top of him mJ2 bounces over and deliberately play bounces on top of mJ1 fJ starts to get up to leave castle

8. <Internals\\Video\\Video activity sessions\\00067 Indoor car push> - § 2 references coded [49.09% Coverage]

Reference 1 - 24.31% Coverage

M nip O runs across room pushing car past M nip two who turns car and starts off in the same direction and they lightly bump as O overtakes MNip two and says:

"You're in the way"

Background excited voices

Reference 2 - 24.78% Coverage

"Kenny? has Won the Race" [Emphasis on W-on the R-ace - like a commentator] Whilst arms above head, jiggling and turning on spot then turns to take hold of the car again and lifts self up off feet with hands on top of the car

9. <Internals\\Video\\Video activity sessions\\00068 analysis bouncy castle sequences> - § 7 references coded [8.28% Coverage]

Reference 1 - 2.03% Coverage

0 0	07	Woawoawoawoa	Background expressing emergency services vehicle	
	20	Play noises yea wa wa	Background voices outside playing	

## Reference 2 - 0.55% Coverage

	03:12	fN: Gabby will you help me to jump please?	fN climbing onto the bouncy castle asking Activity Leader to join her, she follows. They link with AL holding her under arms to help her to bounce	
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## Reference 3 - 0.16% Coverage

		KLdr: One arrrrrr	Lifts fN off feet during the bounce and lands her on her back on the castle floor	
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## Reference 4 - 1.60% Coverage

	03:17	fN: Now we've got to jump	fN gets back up and holds arms out to KLdr to repeat the play. Smiling and engaging eye contact as play friend.	
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## Reference 5 - 0.96% Coverage

	03:56		fN draws KLdr back holding hands out to bounce together mN comes back and deliberately bumps into KLdr and knocks her down	
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## Reference 6 - 2.33% Coverage

	04:42		KLdr stands in centre of castle. mN and fN bounce about in front of her mN starts to follow fN around. Both smiling. fN falls, mN looks down on her smiling	
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## Reference 7 - 0.65% Coverage

	04:58		Kldr: Play knocks mN over and tries to tickle	
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[illegible]

## Annex J High level descriptors of video data sequences

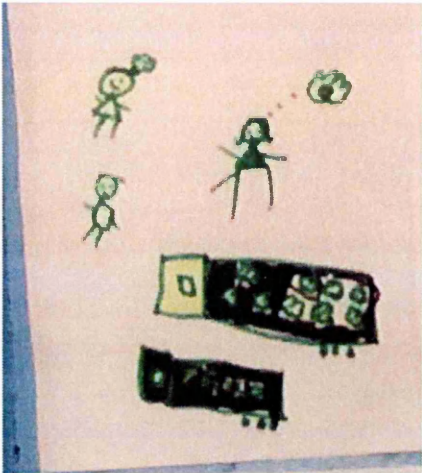
Ref. no.	Time	Overview of activity	Time of day	Leader involved	Male	Female	Jnr	Nipper	Individual	Group	Game	Activity	Equipment	No equip
Day one: 28.05.15														
53	4s	Bouncy castle background and Willow, Nalini and Teresa playing badminton in foreground	9.48		x	x	2			x		?	x	
54	1m 40s	bouncy castle in background Jenna shooting football penalties, Ellie pushing Richard in car, Willow and Teresa playing badminton, bouncy castle deflated	9.53		x	1	2	1				x	x	
55	18m 09s	Lead whole group parachute games	10.17	F										
56	15m 55s	Creative drawing session; two extracts on pictures drawn. Jenna showing her football picture and then Jenna showing Karen's picture of the bouncy castle. Oliver showing his lorry drawing.	11.25	2xF	x	x	x	x	?	?		x	x	
57	1m 40s	Bouncy castle primarily 2 jnr boys and one boy nipper initially one jnr girl. Dominantly play fighting, physical jostling	12.14		3		2	1	x	x		x	x	
58	11s	Lawrence, Freddy and Ian outdoor exit from sports hall; explosion of running for no reason?	12.21		3		3		?	?	?	?		x
59	4m 54s	Outdoors, long distance car push, two junior boys football skill game, (background argument), explanation of the game	12.26		2		2			x/?	x		x	
60	1m 20s	Ellie and Erica practicing gymnastics	12.29			2	2		x/?x/?			x		x



Day two: 29.05.15														
Ref. no.	Time	Overview of activity	Time of day											
62	8m1 5s	Activity Leaders Frank and Issie and small football game: Xian, Wayne, Harvey, Eon, Edward and Wallace	13.52	M	10	?	x	x		x	x		x	
63	34s	Outdoor race commented by Oliver- Edward and Peter racing	13.59		4		x	x		x		?	x	
64	8s	Car rolled down hill - Peter and Oliver	14.01		4		x	x		x		?	x	
65	29s	bouncy castle, mixed most jnr/ripper boys and one girl: Wallace, Lawrence, Orlando, Harvey and	14.04		4	1	x	x	?		?	x	x	
66	19s	Oliver's car push across Dance Studio	14.05		1		1		1		?	?	x	
67	20s	Oliver's car push 'a race'	15.15		4		4			x	?	?	x	
68	33m 18s	Outdoor open space; two nippers (Eon) one boy one girl indoor bouncing with leader,	15.24			2		2	x			x	x	
				Leader involved	Male	Female	Jnr	Nipper	Individual	Group	Game	Activity	Equipmen	No equip

Day one 280515: Eight sequences; 43m51s  
Day two 290115: Seven sequences; 43m25s

Annex K: Examples of children’s drawings

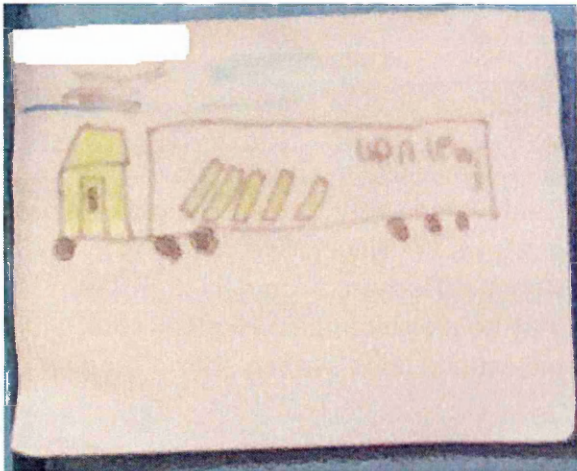


**Pippa’s (Jnr) picture:**

See below an extract from the discussion with Pippa about her photographs when Pippa also introduces the picture that she has drawn and is keen to talk about. She has drawn a Tesco flower lorry. This seems to link with other play activities with her friendship group, Oliver and Harvey.

Pippa	Because ... and that’s Tesco		Pippa points at the lorry
Researcher	And this is your picture and you’ve got Tesco?		Researcher turns from tablet to the picture Pippa has placed in front of them
Pippa	Flower lorry		
Researcher	Flower lorry	Confirming tone	
Pippa	Oliver		Pippa’s attention diverts to calling over Oliver to see her picture
Researcher	Yeah?	Soft querying interested tone	I try to keep her attention gently nudging verbally for more information
Pippa	Flower in my hair thinking about bubbles	Voice lifts in bubbles	

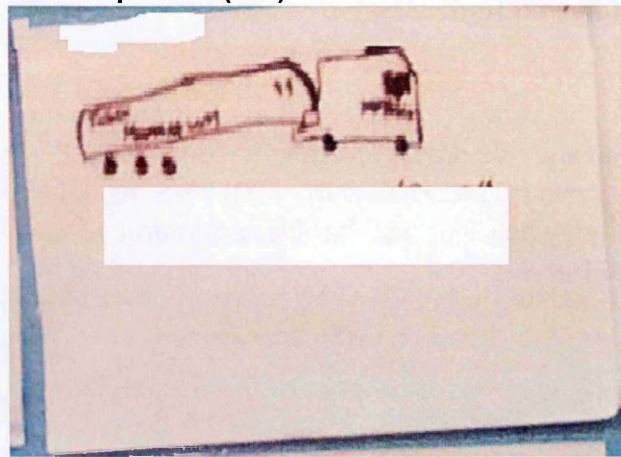
Harvey’s picture (Jnr)



Harvey’ s picture reflects the joint interests of the strong friendship group he was part of comprising himself, Pippa and Oliver.



**Oliver's picture (Jnr)**

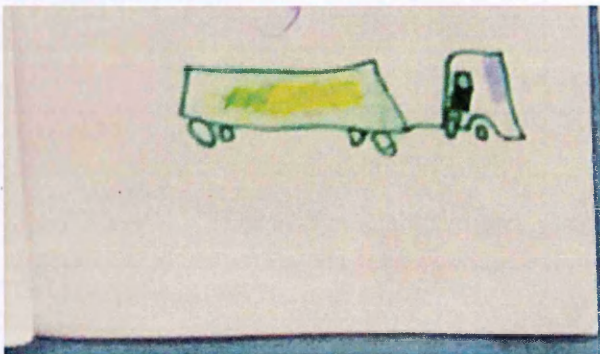


*[Originally cropped to just show just the picture of the lorry and then it didn't seem fair on Oliver and re-arranged how his picture was to be shown].*

Oliver spent a significant amount of time playing with the ride-in cars arranging car races, having lone car chases sometimes involving explosive bouts of energy, crashes and calling of

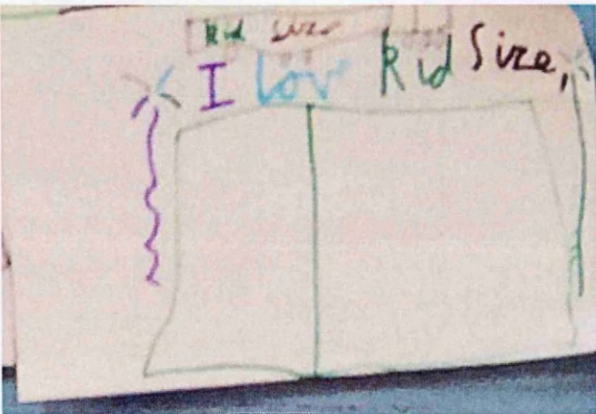
emergency services with accompanying siren noises. His siren noises were often a background accompaniment to the children's play both indoors and outdoors.

Can also cross reference to video vignette where he, Pippa and Harvey had broken away from the parachute game to play with the toy cars.



**Lawrence's picture (N)**

Lawrence has also drawn a lorry. There is no obvious reason for this. Potentially he was stuck for ideas and copied the older group of children.



**Wallace's picture (Jnr)**

On a familiarisation visit to the Activity Camp I had spent time shooting basketball goals with Wallace. See observation vignette (Research Journal: 18.3). This may be a picture of a basketball court with the scoring rings at each end.


Annex L: Extract of transcript and coding of the small-sided football game.


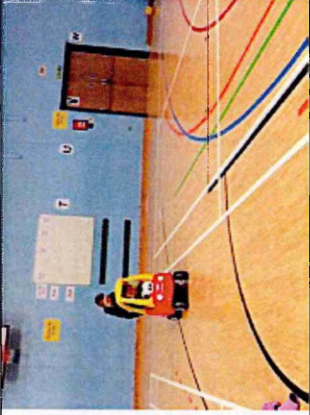
935:	936:	937: Children's call and noises in the tempo of the game suggesting it is on and about the game in background but drowned out by wind.	towards other children playing on the field away from the football.
939:	930: 30	931: Players calling for the ball.	938: Harvey drags off sweatshirt and does jig on the spot arms waving high above his head – possibly engaging with Stephanie who has wandered onto the pitch in front of him – he is facing and seems to be watching play at other end goal. Ball has been kicked to Jon the opposition goalkeeper. Harvey watches the play hands on head
940:	930: 35		939: Play around far goal involving all other players continuing: Albi Frank and team goalkeeper Tom, Edward and Dylan Albi: Issie with her team David and Wallace and Xian. Ball kicked to Jon. Albi F arm up asking for the ball. All players except Wallace bunch around Frank. Dylan continues to watch with hands on head.
943:	934: 45	935:	936: Frank long passes across to Issie off picture across pitch and players all spit up trying to get the ball. Len sits on ground having tripped in a failed tackle on Frank to get ball in. David, Xian and Wallace running on pitch with team all spread out going towards Harvey in goal
947:	938: 55	939: Issie: "bounced too" "like cross" 940: 941: David: "yes" – arm thrown above head and wide	942: Players continue down pitch. Frank passes across the centre of the pitch to Wallace on David or Xian and early Issie collects. Harvey tracks the ball covering the goal 943: Issie shouts a goal
948:	945: 1.00	946: Xian: "Issie"	947: Xian makes aeroplane shape with arms and runs towards a few yards. Wallace flips sweatshirt back properly from half mast and follows Xian. Xian turns and high fives with Wallace smiling 948: David and Jon consult with each other then walk back up the pitch 949: Issie watching and smiling in middle ground
950:	951:	952: Talk as Harvey deciding where to send the	950: As re-group, Xian continues the aeroplane movements. All players focused on Harvey who has ball to restart the game from the goal except Issie who is still walking back up the pitch. Animated talk between







**Annex M: Example of a photo-elicited unstructured interview**

Who talking	Transcript of talk and noises	Intonation and interpretation guidance	Photograph being discussed	Environment events/ factors impacting on discussion
Researcher	So if that's alright I will put the tape recorder on and we can talk: Oh so what's that one of?			Sitting at registration desk in the sports hall doorway area, just out of the main room but still in touch with the activities and other children.
Researcher	OK what's the next one? Just going to fast forward to that one			
William	And what's that one of?			
William	A car			
Researcher	Uh huh			
William	We have toy cars and they're ...			
William	If we have roller skates with us they are good for balance			William brought his skates earlier in the week to play with.
William	And little kids if they are little enough they can go in here as you can see			William points to the Nippers in the cars – the “little kids”.
Researcher	Mmm			

William	as you can see			
Researcher	Inside the car?			
William	Yeah and err and you can like push them which is really fun I	Laugh in voice		
Researcher	So you can both get some fun out of that?	Laugh in voice		
William	And here's the badminton			
Researcher	Yeah			
William	Badminton that the ....	Sentence trails off		
William	The car yeah	William flicked back a photograph		
Researcher	And why did you take the picture of the badminton?			
William	Yeah which we can play in groups or one by one yeah so			
Researcher	Mmm hmm			
William	And here's another one of the car			
Researcher	Laugh you like the car, you've taken lots of pictures of that one			
				
Researcher	What's that picture of?			
William	You, you can like do handstands and cartwheels on a safe mat which is that			
				
Picture (not available) of William's friendship group posed and tumbling about on a gymnastics mat near the soft bricks area.				



Pippa	Is my favourite one				Researcher acknowledges Pippa and then turns to William to ask him if it is his favourite and why.
	Is your favourite one the bouncy castle? Why is it your favourite?				
William	You can like bounce an ....				
Pippa	Did it again – look – laugh.....				Pippa's voice over.
Researcher	Laugh you're in the bouncy castle are you?				
William	The picture				
William	Err and also here's another one				
	And that one's of the bricks?				
William	Yeah				
William	Hey, hey dude let me show you a picture of yourself				William turned away from the interview and called Oliver over to show him the picture on the tablet. Pippa, Oliver and William

					all gathered around tablet and photograph.
William, Pippa and Oliver	Laughter				Over-talk
Interruption as a girl Nipper wanders out of the sports hall past the registration desk where the interview is taking place looking for the toilet. Researcher deals with her, asking her to find a companion to make the visit with and telling her the way.					
Researcher	Show me one more favourite one	Persuasive voice, brisk and indicating an end to the discussion quite soon.			Researcher trying to just extend William's concentration on the photographs for a last piece of conversation if possible.
William	Err where is that picture which I there the play				
	On the creative table?				
William	Yeah				
	Why did you take that photo?				
William	'Cos I really like playing with the clay				
William	Yeah playdough, playdough mix and match				
Researcher	[Laugh] Well thank you very much for your journalism I really appreciate that.				
William	No problem				
Researcher	Brilliant thank you				

